

UNIVERSITY OF ILLINOIS

BUDGET REQUEST FOR OPERATING AND CAPITAL FUNDS

FISCAL YEAR 1991



PREPARED FOR PRESENTATION TO THE
BOARD OF TRUSTEES
SEPTEMBER 14, 1989

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Preface

This past year the Illinois General Assembly concluded a session which will come to be regarded as one of the most significant in history in its impact on Illinois higher education. After two years of discussion and debate without a clear consensus or commitment to quality education, the General Assembly signaled decisively that excellence in education was indeed this State's top priority. The linkages between a strong educational system and a robust economy, between diverse educational offerings of high quality at all levels and a diverse society in which all must play critical roles were forged and raised to the top of the State's agenda.

Every element of the University of Illinois' fiscal base has been strengthened. While the earlier damage from two years of fiscal crisis ran deep, recovery is now possible. The loss of key faculty members will be slowed; our competitiveness in recruiting and retaining top quality faculty and staff will be improved; key initiatives in the classroom can begin, as offerings cut by fiscal short-falls are restored and as science, humanities, mathematics, and other basic programs are enhanced; our library and instructional equipment budgets have been augmented; and we can speed up the modernization of our laboratories. New facilities will be constructed on both campuses. Most important, the beginning of a significant recovery process has signaled to both current and prospective faculty and staff that Illinois recognizes that a strong university is central to a strong State of Illinois.

The vote of confidence given to the University of Illinois by the General Assembly and the Governor carries with it a significant responsibility as well. We must demonstrate responsible use of the resources we worked so hard to achieve. The efficiency of our operations must continue to grow.

And the State of Illinois has a responsibility as well: to assure that this year of recovery and commitment is not just a year in duration, but a decade led by a new vision and a new policy.

As we look ahead to the beginning of a new decade the following priorities will guide our planning:

- Our paramount objective must be to strengthen our ability to attract and retain top-quality faculty and staff. The nineties will see competition for talented faculty intensify. The University must be able to compete in that arena.
- We must improve both the quality and the accessibility of our instructional programs with special attention to undergraduate education and the liberal arts and sciences.
- Science and technology programs for which the University is nationally and internationally known and which help to define the unique role which the University of Illinois plays in the State's economic development must continue to advance.
- We must make an increased investment in modernizing the physical facilities which support our teaching, research, and public service programs.
- The special needs of underserved populations, underserved areas and unmet needs from prior years must be met.

Each of these objectives is addressed in the budget recommendations contained herein. Our task must be to sustain the recovery process and regain lost momentum.

Illinois has reaffirmed its commitment to quality and its desire to have a first rate system of higher education, led by its top-quality flagship University. By every measure, the University of Illinois is among the top public universities in the Nation. Our challenge is to equip this University to serve young people in ways that develop their talents fully; to pursue the research and scholarship needed to provide the innovation required not only by the economy but for strong families and communities and by a strong democracy; and to extend the University to every citizen of the State to put knowledge to work in the Land Grant tradition. It is this philosophy that underlies our budget recommendations to the Board of Trustees and to the people of Illinois.

Stanley O. Ikenberry, President
September 14, 1989

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**INTRODUCTION TO THE
FISCAL YEAR 1991 FINAL BUDGET REQUEST**

GENERAL PERSPECTIVES FOR DEVELOPMENT OF THE
FY 1991 OPERATING BUDGET REQUEST

President Ikenberry's Preface to this document notes the historic budget action by the Illinois General Assembly and Governor this spring to reaffirm the State's commitment to a strong educational system at all levels. The budget process for all educational, social, and human services which Illinois provides to its citizens has been a turbulent one during much of the past decade. A clearly inadequate revenue base has forced Illinois policy makers either to reduce critical services--as was done in 1983 and 1988--or to secure new revenues to support those critical services--as was done in 1984 and again for the current year. Education suffered deeply in the past two years as fiscal inadequacies forced budget cutbacks and tuition increases, accelerated the pace of faculty departures, impaired recruitment of top-quality new staff, halted progress in curriculum improvement, slowed efforts in economic development and generally damaged morale throughout higher education across the State.

The action taken by the General Assembly and the Governor this spring to return educational support to more adequate levels will enable the University of Illinois to address a broad range of fiscal and programmatic needs and to inaugurate a balanced recovery effort. In total, the University received an increment of \$65.1 million in new operating funds for FY 1990--an 11.3% increase above FY 1989 appropriations. Of this total, \$30.1 million came from the newly created "education assistance fund" derived from tax increase revenue. Thus, nearly one-half of the University's budget advance for FY 1990 came directly as a result of the State's decision to implement a tax increase.

The \$65.1 million in general operating budget support represents by far the largest increment received in the past two decades and the second largest rate increase in that time period, behind only the FY 1984 increase which also followed a tax increase decision by the General Assembly. (The FY 1984 increment also included substantial tuition increase revenues, which the current year's does not). The following figures chart the University's funding history over the past four years by major source of revenue.

UNIVERSITY OF ILLINOIS OPERATING APPROPRIATIONS*
(\$ in Millions)

	<u>FY 1987</u>	<u>FY 1988</u>	<u>FY 1989</u>	<u>FY 1990</u>
General Revenue	\$438.9	\$422.2	\$442.6	\$478.8
Education Ass't.	--	--	--	30.1
Income Fund	87.6	100.4	119.4	118.5
Other Approp.	<u>11.1</u>	<u>11.6</u>	<u>12.8</u>	<u>13.0</u>
Total	\$537.6	\$534.2	\$574.8	\$640.4

*Excludes \$25 million for University Hospital for FY 1990.

From these data, it can be seen that to the extent that the University was able to achieve any budget growth between FY 1987 and FY 1989, it was accomplished primarily through tuition increases in the Income Fund. That pattern was sharply reversed in FY 1990. While this substantial increase in tax-based appropriations is significant, it is also extremely important to point out that when adjusted for inflation, the University is operating on virtually the same State tax support (GRF plus EAF) in FY 1990 that it had achieved in FY 1987. Figure 1 demonstrates this condition vividly.

After two years of severe fiscal stress the University's FY 1990 budget permits recovery to begin in every segment of operations. Salary increases likely to exceed the Big Ten average by at least 2% will begin to restore the competitiveness in attracting top-quality faculty and staff. Cost increase funds--the first since FY 1987--will stem further erosion of purchasing power. Significant academic program funds can be invested in restoring classes cut over the past two years, in creating new courses in basic educational areas critical to undergraduate education, and in improving accessibility to the University for minority students. New teaching and research equipment can be secured, and the modernization of classrooms and laboratories will be accelerated. Most crucial of all, the broad based recovery process now underway will help reaffirm the State's commitment to a strong University of Illinois.

To put the gains achieved in the FY 1990 budget in longer-term perspective, Figure 2 reviews the past ten years of budget history, examining incremental funds received for salary increases, other continuing components elements (price increases, operations and maintenance for new areas, etc.), and academic program growth. Only in one year--FY 1984, another tax increase

FIGURE 1

STATE TAX APPROPRIATIONS

1987 DOLLARS IN MILLIONS

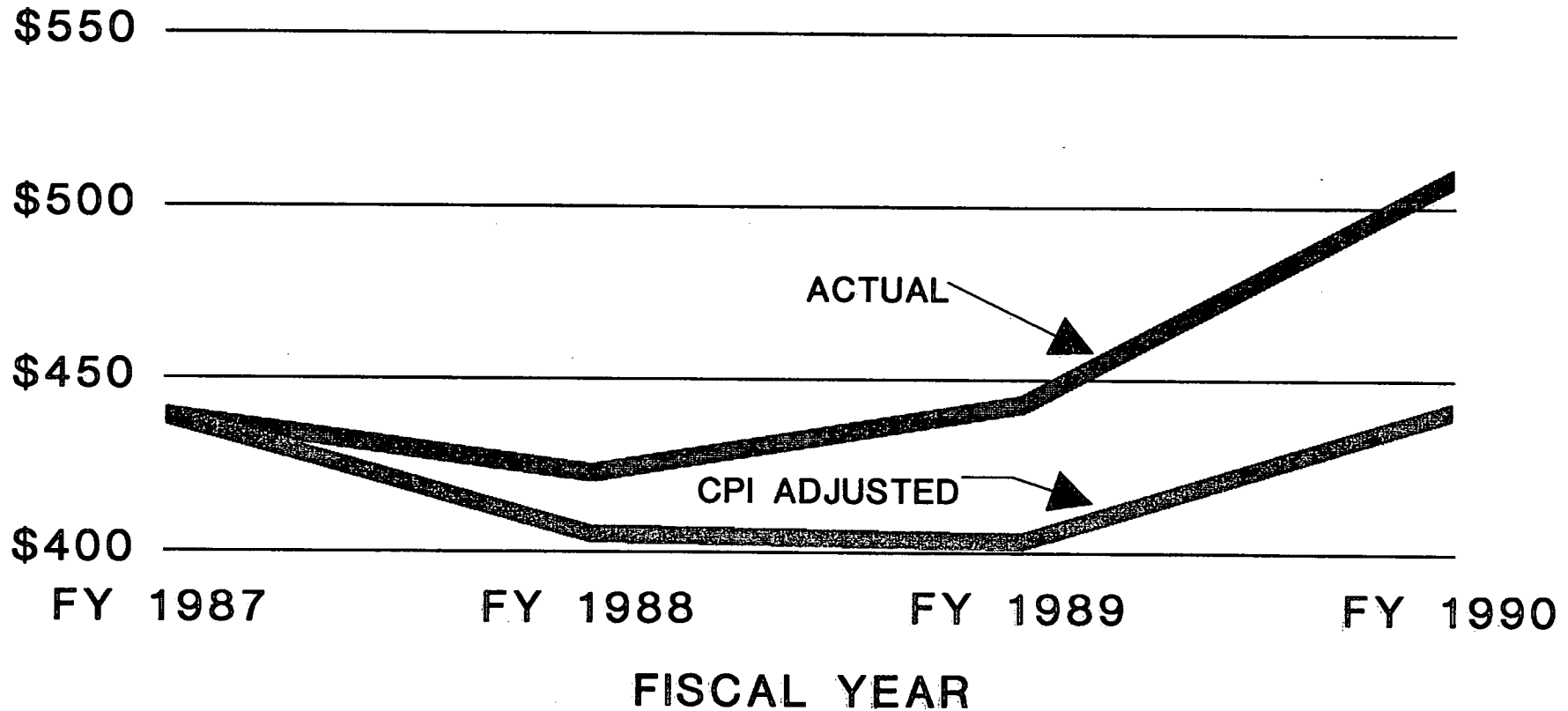
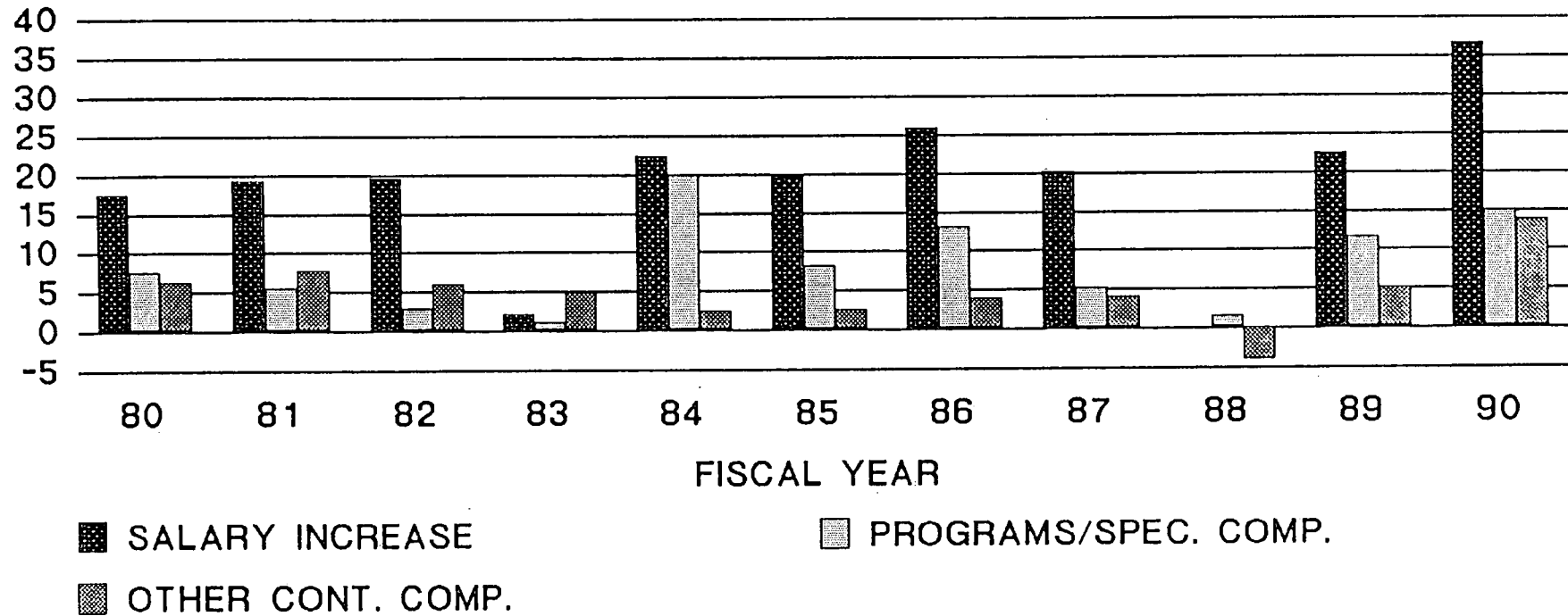


FIGURE 2
FY 1980 - FY 1990 STATE INCREMENTAL FUNDS RECEIVED BY THE UNIVERSITY OF ILLINOIS
(Dollars in Thousands)

COMPONENT	FY 1980	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990
PREVIOUS YEAR'S BASE	\$290,681.4	\$321,158.3	\$353,550.3	\$381,884.9	\$389,861.2	\$434,289.0	\$464,718.2	\$507,575.5	\$536,867.7	\$535,453.4	\$574,823.8
NET INCREMENT	31,279.3	32,391.9	28,334.6	7,976.3	44,427.8	30,429.3	42,857.3	29,292.1	(2,614.3)	39,100.4	65,366.8
NET INCREMENT AS A % OF PRIOR YEAR'S BASE	10.8%	10.1%	8.0%	2.1%	11.4%	7.0%	9.2%	5.8%	-0.5%	7.3%	11.4%
SALARY INCREASE	17,505.3	19,208.5	19,511.2	2,125.9	22,263.4	19,660.2	25,853.3	20,103.9	0.0	22,519.1	36,669.4
% OF TOTAL INCREMENT	56.0%	59.3%	68.9%	26.7%	50.1%	64.6%	60.3%	68.6%	0.0%	57.6%	56.1%
OTHER CONT. COMPONENTS	6,298.1	7,631.6	5,949.8	4,787.1	2,315.7	2,588.5	3,929.0	4,057.3	(4,078.6)	4,993.8	13,726.3
% OF TOTAL INCREMENT	20.1%	23.6%	21.0%	60.0%	5.2%	8.5%	9.2%	13.9%	156.0%	12.8%	21.0%
PROGRAMS/SPEC. COMPONENTS	7,475.9	5,551.8	2,873.6	1,063.3	19,848.7	8,180.6	13,075.0	5,130.9	1,464.3	11,587.5	14,971.1
% OF TOTAL INCREMENT	23.9%	17.1%	10.1%	13.3%	44.7%	26.9%	30.5%	17.5%	-56.0%	29.6%	22.9%

DOLLARS IN MILLIONS



year--has the University's budget been strengthened to a degree even close to that achieved for FY 1990.

While the recovery process has begun in full, it will take several years to complete. The University has been through more than a decade of uneven support from the State, as Figure 3 illustrates. The peaks of support have been strong indeed; but the drops have been calamitous. With the strong support provided in FY 1990, recovery has begun. What is needed now is a period of stable State support, allowing the recovery to continue. Recovery can be sustained if the State's priority for education remains high and its commitment to quality education remains firm.

University of Illinois Hospital

The status and future of the University of Illinois Hospital (UIH) received much attention from the General Assembly in its last session. The General Assembly has reaffirmed its intent to have the University continue to operate University Hospital, and an additional \$25 million in operating support for UIH was provided. (This amount is excluded from the figures described in the section above.)

These additional resources will permit a rebuilding process to begin for the Hospital. The fiscal constraints in the hospital have been substantially more severe than for the University at large, however, and recovery will take longer for UIH than for most other elements within the University. The Hospital must be able to count on maintaining increased State support if it is to be rebuilt into a fully functioning facility providing educational support to more than 2,500 health professions students each year and high quality patient care to Illinois citizens.

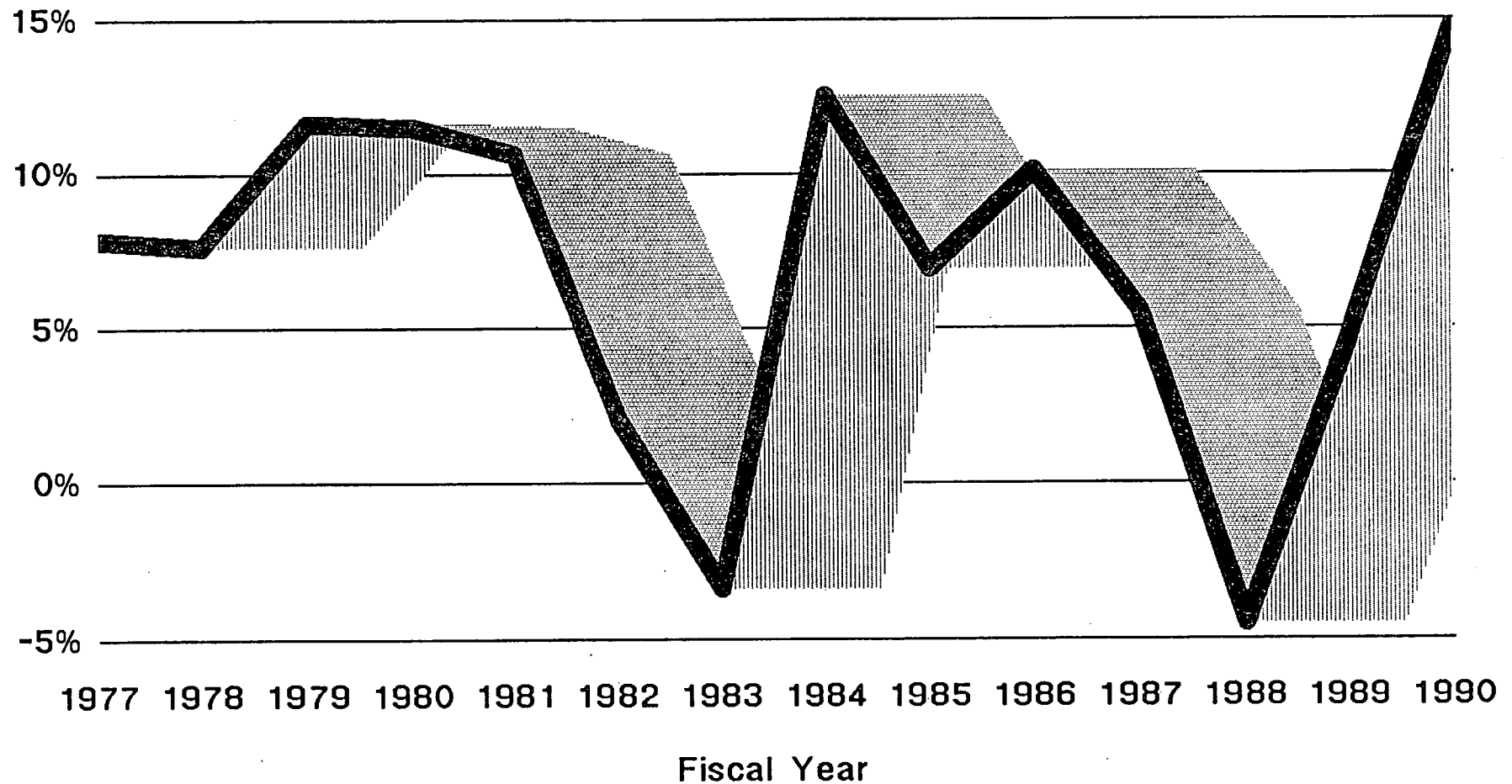
FY 1991 Operating Budget Emphases

The University's FY 1991 operating request is presented in a framework designed to sustain the momentum achieved in the current year. In contrast to the requests of the past years which were driven by dramatic needs to address funding shortages, the FY 1991 request seeks to continue progress, to further strengthen the base of support on which instructional, research, and service programs now reside, and to maintain a steady attack on the

FIGURE 3

GENERAL TAX APPROPRIATIONS

Percent Growth FY 1977 - FY 1990



effects of a decade-long period of uneven support. The FY 1991 operating budget request is based upon four fundamental and comprehensive emphases:

- Continuing to strengthen the University's ability to attract and retain top-quality faculty and staff. Much competitive ground was lost in the past two years; much remains to be regained. As in the past, improving overall compensation for faculty and staff must be the top priority. But competitiveness is not limited to a single measure. Adequate resources must be available for modern teaching and research equipment and the classrooms and laboratories in which to use that equipment. Adequate funds must be available to operate new and remodeled facilities which house academic programs. Further inflationary erosion of programs must be avoided.
- Strengthening core academic experiences for students at all levels of education. For FY 1991, this objective focuses particularly upon undergraduates, as the most extensive curricular restructuring in decades is underway. This objective also focuses on initiatives to expand minority student access and retention, and to extend the University's linkages with elementary and secondary schools, particularly in Chicago. Ways must also be found to make current University of Illinois programs adequately available to students. The demand for these programs far exceeds the University's ability to respond, and this inability has been greatly exacerbated by the budget reductions required for the past two years.
- Strengthening research and development initiatives to enhance the Illinois economy. The linkages between investments in research and development and enhanced economic growth potential are becoming clearer and clearer. Engineering, the life sciences, biotechnology, computing, and agriculture represent special strengths at both campuses of the University of Illinois as well as key areas with great potential for economic development in Illinois. The FY 1991 budget request continues development of these areas of science and technology along with related professional education and technology transfer programs geared to speed the application of new research to the marketplace.
- Strengthening the State's investment in the physical facilities which support teaching and research programs. This objective spans virtually every program now operating at the University of Illinois at every location. For FY 1991 this objective focuses on the need for funds to open a number of new or significantly remodeled facilities. It includes funds to address a backlog of operations and maintenance deficiencies which have accumulated over the past two decades, and the broader need to incorporate a repair and renovation program within the University's annual operating budget. For the longer term, meeting this objective will require development of new ways to finance the University's unmet needs for constructing new and replacement facilities.

FY 1990 Operating Budget Request

These overarching objectives underlie each of the specific budget request elements which are summarized in Table 1 and described in much greater detail in later sections of this document. Table 2 provides a summary of the more detailed academic program themes around which requests for expanded/improved programs are organized for each campus. The overall request seeks an FY 1991 budget increase of 9.9%--the most modest rate of the past decade. Nearly 90% of the FY 1991 request--some \$58 million--is devoted to the "continuing components," those elements of the budget which need to be adjusted simply to maintain the current scope of operation now in place. A total of \$7.5 million is sought for expanded/improved academic programs--about one-half of what has been sought for the past two years, reflecting the strong support received in the current year.

The FY 1991 operating budget request is comprised of the following specific components:

- Compensation Improvements for faculty and staff which total 8%, including FY 1991 salary increases of 6% plus an additional 2% to support improvements in employee benefits. An overall increase of this magnitude is essential if continued progress toward the third place Big Ten benchmark is to be made. Despite some closure of the gap to third place anticipated for the current year, a significant gulf remains.
- General Cost Increases of 6%, to offset the impact of inflation on a wide range of goods and services needed to support the University's day-to-day operations in classrooms, laboratories, and support offices.
- Utilities Rate Increases of 5.25% to match projected rises in fuel prices and consumption increases for FY 1991.
- Library Acquisition Increases of 12% to offset continued high inflation increases experienced in this crucial segment of the University's academic support budget and to permit a very modest recovery from the effects of severe underfunding in the past decade.
- Special payroll/personnel costs totalling \$2.8 million to meet mandated costs in Medicare coverage for new employees, accumulated sick leave payments to employees leaving the University, and Worker's Compensation coverage.
- Operation and Maintenance support for new facilities totalling \$4.1 million to operate new buildings at both campuses, and an additional \$3.25 million to create a repair and renovation program which can be funded on a recurring basis each year.

TABLE 1
FY 1991 OPERATING BUDGET REQUEST
(Dollars in Thousands)

I.	Continuing Components		
A.	Compensation Improvement		\$39,383.3
1.	FY 1991 Salary Increase (6%)	\$29,537.5	
2.	Fringe Benefits Improvement (2%)	9,845.8	
B.	Price Increases		11,293.8
1.	General Price Increase (6%)	5,516.1	
2.	Utilities Price Increase (5.25%)	1,951.0	
3.	Library Price Increase (12%)	1,066.4	
4.	Sick Leave Payout Costs	2,247.6	
5.	Medicare Contributions	88.9	
6.	Worker's Compensation	423.8	
C.	O & M Requirements		7,330.0
1.	FY 1990 New Areas	4,080.0	
2.	R & R Program	3,250.0	
	Subtotal, Continuing Components		\$58,007.1
	% of FY 1990 Base		8.72%
II.	Programmatic Components		
A.	Chicago		3,250.0
B.	Urbana-Champaign		3,750.0
C.	Central Administration		500.0
	Subtotal, Programmatic Components		\$7,500.0
	% of FY 1990 Base		1.13%
III.	Special Services/Funding		
A.	County Board Matching		300.0
B.	Fire Services Institute		50.0
C.	Division of Services to Crippled Children		250.0
	Subtotal, Special Services/Funding		\$600.0
IV.	Grand Total, Sections I - III		\$66,107.1
	% of FY 1990 Base		9.94%

TABLE 2
FY 1991 PROGRAM BUDGET REQUEST
(Dollars in Thousands)

	Chicago	Urbana-Champaign	Central Administration	Total University
I. Promoting Instructional Excellence	1,110.0	1,715.0		2,825.0
II. Scientific and Technological Advances	615.0	435.0	500.0	1,550.0
III. Minority Access	685.0	700.0		1,385.0
IV. Engineering Revitalization	300.0	600.0		900.0
V. Library Improvements	100.0	300.0		400.0
VI. Academic and Institutional Support Services	440.0			440.0
	<u>\$3,250.0</u>	<u>\$3,750.0</u>	<u>\$500.0</u>	<u>\$7,500.0</u>

- Academic program initiatives totalling \$7.5 million organized around several key themes: promoting instructional excellence; scientific and technological advances; minority access; engineering revitalization; library improvements; and academic/institutional support services. An additional \$600,000 is sought for several special service needs for activities which are outside the normal scope of the University's instructional and research activities.

Together these components require \$66.1 million above the current level of appropriations to the University--a 9.9% increment. If approved in its entirety, the FY 1991 operating budget request would raise the University's total support for appropriated funds to \$731,047,600.

The Enrollment Picture

In general, enrollment demand for both campuses of the University of Illinois is expected to remain stable for the next five years. Demand for undergraduate enrollment at Urbana-Champaign continues to be extremely high, and will exceed by a wide margin the campus' ability to accommodate all who wish to enroll. Current projections call for a minor downward adjustment to enrollment targets set during the early 1980's, but which have been exceeded every year since they were established. Graduate and professional enrollments are likely to remain stable at current levels.

Enrollment stability at the University of Illinois at Chicago is also anticipated, despite a declining population in the 18-22 year old age group in the geographic areas from which UIC draws the majority of its students. Increased student recruitment efforts and improved student retention are helping to keep enrollment levels stable after the declines experienced several years ago. After several years of steady growth, graduate enrollment at UIC appears likely to stabilize as well. In the health professions areas of dentistry and medicine, planned enrollment decreases will continue.

Table 3 presents a variety of historical and projected enrollment data for each campus.

TABLE 3
FALL TERM ON-CAMPUS HEADCOUNT ENROLLMENT
UNIVERSITY OF ILLINOIS

	Actual Fall Term			Projected Fall Term				
	1986	1987	1988	1989	1990	1991	1992	1993
Chicago								
Lower Division	7,308	7,107	7,256	7,145	7,145	7,145	7,145	7,145
Upper Division	8,819 *	8,784	8,684	8,550	8,550	8,550	8,550	8,550
Total Undergraduate	16,127	15,891	15,940	15,695	15,695	15,695	15,695	15,695
Medicine	1,314	1,302	1,288	1,275	1,275	1,275	1,275	1,275
Dentistry	486	438	388	340	340	340	340	340
Dental Post Graduates	39	35	30	32	30	30	30	30
Pharm.D.								
Undergraduate Professional	342	433	480	484	480	480	480	480
Continuation (CCO)	89	61	87	86	85	85	85	85
Total Professional	2,270	2,269	2,273	2,217	2,210	2,210	2,210	2,210
GI	3,745 *	3,575	3,663	3,648	3,648	3,648	3,648	3,648
GII	1,564	1,439	1,452	1,447	1,447	1,447	1,447	1,447
Total Graduate	5,309	5,014	5,115	5,095	5,095	5,095	5,095	5,095
Total (Excl. residents & interns)	23,706	23,174	23,328	23,007	23,000	23,000	23,000	23,000
Residents and Interns	741	739	759	751	751	751	751	751
TOTAL - Chicago	24,447	23,913	24,087	23,758	23,751	23,751	23,751	23,751
Urbana-Champaign								
Lower Division	13,482	12,974	12,632	12,700	12,650	12,600	12,500	12,500
Upper Division	13,717	14,091	14,227	14,000	14,000	13,950	13,900	13,900
Total Undergraduate	27,199	27,065	26,859	26,700	26,650	26,550	26,400	26,400
Law	629	608	589	620	620	620	620	620
Veterinary Medicine	316	314	319	320	320	320	320	320
Total Professional	945	922	908	940	940	940	940	940
GI	3,876	3,811	4,124	4,190	4,260	4,330	4,375	4,375
GII	4,310	4,542	4,145	4,200	4,200	4,200	4,200	4,200
Total Graduate	8,186	8,353	8,269	8,390	8,460	8,530	8,575	8,575
TOTAL - Urbana-Champaign	36,330	36,340	36,036	36,030	36,050	36,020	35,915	35,915
GRAND TOTAL - University of Illinois (Excludes residents and interns)	60,036	59,514	59,364	59,037	59,050	59,020	58,915	58,915
GRAND TOTAL - University of Illinois	60,777	60,253	60,123	59,788	59,801	59,771	59,666	59,666

*Excludes regional nursing students.

GENERAL BACKGROUND FOR DEVELOPMENT OF THE
FY 1991 CAPITAL BUDGET REQUEST

As with the operating budget, the recently-concluded General Assembly session brought significant improvements in facilities funding for higher education and for the University of Illinois. Creation of a special capital initiative in science and technology was spurred by the loss of the superconducting supercollider, making positive use of the cooperative efforts of Illinois business and corporate executives, government officials at the state and federal levels, and academic leaders which had produced a well-developed initiative for Illinois in the SSC competition.

Although final gubernatorial action on capital appropriations was not complete at the time this document was prepared, the University of Illinois is likely to receive new capital funds of nearly \$48 million for FY 1990. Those funds include construction of one new facility and planning for two major new buildings; restoration of the critically needed repair and renovation program; important equipment and remodeling initiatives; and continued support for energy conservation.

The crucial task for FY 1991 is to carry forward the progress begun in the current year. The severe fiscal constraint suffered in operations over the past two years has tended to obscure, to some extent, the very serious nature of ongoing facilities needs. The University faces simultaneous requirements to secure new facilities to replace obsolete facilities space and to remodel and upgrade existing space for programs which depend upon state-of-the-art classroom and laboratories to maintain their quality. The linkage between high quality academic programs and high quality space in which to conduct them has never been greater. Serious remodeling and renovation needs will affect the speed and momentum with which academic program improvements can be made. Space limitations, above all else, will effect the degree to which new programs can be built in areas in which academic excellence already exists, especially in the sciences and engineering.

Over the past five years the University has conducted several major internal studies of key physical facilities planning issues. The building condition study, campus master planning at both campuses, and utility

system master planning efforts will prove extremely valuable as new facility construction or remodeling projects are secured.

For FY 1991, the key objectives of the University's capital budget request are to secure construction funds for the major initiatives for which planning has begun; to secure vital support projects (equipment and utilities) for ongoing projects; to sustain progress in remodeling and renovation of existing facilities; and to secure planning funds for top priority projects to follow the major new facilities supported in the current year.

While some measure of success in facilities improvement has been achieved, it is important to view the University's capital budget needs in a multiyear context. From the perspective of the University's overall facilities requirements, perhaps the most crucial task is to continue to secure a mix of construction, renovation, and planning funds so that steady progress can be made each year.

Table 4 identifies the construction funds necessary to undertake the two major facilities projects supported through the science and technology program in FY 1990. Table 5 outlines the balance of the University's "regular" capital budget priorities for FY 1991. Each of these projects, along with projects in the repair and renovation and energy conservation categories, is described in much greater detail in subsequent sections of this document.

Ambulatory Care Facility

Health professions programs and health care services provided by the University of Illinois received considerable attention during the past legislative session. In a broader context, health care needs for Cook County and the City of Chicago are receiving significant attention at this time at the city, county, and state government levels. Throughout these reviews and discussions, one key element repeatedly cited is the need for new ambulatory care facilities for both educational and health care requirements.

The need for expanded ambulatory care facilities at the University of Illinois has been apparent for a decade and has reached crisis proportions.

TABLE 4
SCIENCE AND TECHNOLOGY PROJECTS
(Dollars in Thousands)

Project	Gross Sq. Ft.	Funded in FY 1990	FY 1991	Costs for FY 1992 and beyond	Total
Urbana-Champaign:					
Chemical & Life Sciences Research Lab.	228,126				
Planning		\$2,425.0			
Construction			\$56,943.2		
Utilities			8,200.0		
Land			450.0		
Equipment				\$5,500.0	
TOTAL		\$2,425.0	\$65,593.2	\$5,500.0	\$73,518.2
Chicago:					
Molecular Biology Research Facility	193,000				
Planning		\$1,966.0			
Construction			\$39,350.5		
Site Development			\$2,579.0		
Utilities			\$1,829.0		
Equipment				\$2,500.0	
TOTAL		\$1,966.0	\$43,758.5	\$2,500.0	\$48,224.5
TOTAL UNIVERSITY		\$4,391.0	\$109,351.7	\$8,000.0	\$121,742.7

TABLE 5
UNIVERSITY OF ILLINOIS
FY 1991 REGULAR CAPITAL BUDGET REQUEST
PRIORITY LIST
(Dollars in Thousands)

Priority	Campus	Project	Budget Category	FY 1991 Request	Cumulative Cost		
					University	Chicago	Urbana
1	U1	Util. Infrastruct. Upgrade/Water System Improve.	UTIL	\$ 4,230.0	\$ 4,230.0		\$ 4,230.0
2	U2	University Critical Equipment	EQUIP	3,750.0	7,980.0		7,980.0
3	C1	Revitalization of Campus Core	REMD	4,300.0	12,280.0	\$ 4,300.0	
4	C2	Instructional Space Addition - AAB	PLAN	832.6	13,112.6	5,132.6	
5	U3	English Building Remodeling Phase III	REMD	3,850.0	16,962.6		11,830.0
6	U4	FY 1991 Critical Remodeling	REMD	4,640.0	21,602.6		16,470.0
7	U5	Electrical Engineering Research Lab.	PLAN	1,530.0	23,132.6		18,000.0
8	C3	Science & Engineering South Addition	PLAN	1,625.0	24,757.6	6,757.6	
9	U6	Campus Site Improvements	SITE	1,250.0	26,007.6		19,250.0
10	U7	Campus Police Station	BLDG	1,769.0	27,776.6		21,019.0
11	C4	Science and Engineering Library	PLAN	1,500.0	29,276.6	8,257.6	
12	C5	Assoc. Health Professions Bldg. Remd. - Phase 1	REMD	8,604.7	37,881.3	16,862.3	
13	C6	College of Business Administration Bldg.	PLAN	1,215.0	39,096.3	18,077.3	
14	U8	Social Work Building	PLAN	185.0	39,281.3		21,204.0
15	U9	English Building Remodeling Phase IV	PLAN	480.0	39,761.3		21,684.0
16	C7	Pharmacy Building	REMD	1,856.0	41,617.3	19,933.3	
17	U10	Mechanical Engineering Laboratory Remodeling	REMD	3,900.0	45,517.3		25,584.0
18	C8	Alumni Hall Remodeling, Phase III	REMD	4,500.0	50,017.3	24,433.3	
19	U11	Main Library Remodeling	PLAN	190.0	50,207.3		25,774.0
20	U12	Agriculture Replacement Land	LAND	700.0	50,907.3		26,474.0
21	C9	College of Medicine West Tower Remd. - Phase 1	REMD	8,948.0	59,855.3	33,381.3	
22	U13	Engineering Hall Remodeling	PLAN	240.0	60,095.3		26,714.0

To deliver adequate education for future physicians, nurses, pharmacists, and all other health professionals, new facilities are essential. Similar needs of equal magnitude exist in the health care context for citizens in Chicago and Cook County.

The need for new ambulatory care facilities in which University of Illinois physician faculty could teach and practice was explicitly recognized in the last session of the General Assembly. The overall plan of which that facility was a part was ultimately not approved--but the need for a new ambulatory care facility is now even more critical. Such a facility should be not viewed solely in the context of higher education facilities needs, since it serves multiple missions in supporting educational and patient care activities. The University's formal FY 1991 capital budget request includes \$2.5 million to plan an ambulatory care facility for its health professions education programs and for patient care activities.

FY 1991 FINAL OPERATING BUDGET REQUEST

CONTINUING COMPONENTS

SALARY AND BENEFIT INCREASES
(\$39,383,300)

The compensation program of any organization must be responsive to the specific objectives of the organization and the environment in which it operates. Compensation policies are driven by a variety of environmental, legal, and personnel considerations. If effective results are to be achieved, the compensation plan must support the overall objectives of the organization as defined by its mission and long-range plans and, in the short-run, enable the organization to meet tactical planning needs by responding to more immediate short-term pressures. An organization's compensation plan must enable it to:

- compete successfully for qualified employees relative to external market considerations;
- adequately reward employees for good performance and commitment to the organization;
- address internal equity concerns;
- keep pace with inflation and ensure employees a stable standard of living; and
- operate under a variety of legal and legislative constraints.

The University of Illinois is a dynamic and diverse organization. The overall quality of its academic programs, as measured by numerous national assessments, places it among the top institutions of higher education in the country and among the top three Big Ten universities. For a number of years, the University has strategically established the latter benchmark as a minimum objective for its faculty compensation plan. To compete successfully in the markets for both academic and nonacademic employees, the University must establish a total compensation program which is competitive with the programs of its peers who seek equally well qualified faculty and staff.

The total compensation package provided to University employees consists of numerous components, each of which is intended to serve specific employee needs. These components include (1) direct compensation (cash income) which enables the employee to establish a standard of living and

make base rate comparisons with other employers, and (2) indirect compensation (benefit programs) intended to protect employees when their income stream is interrupted or burdened by certain types of expenses. Erosion in the competitiveness of salaries or of fringe benefits increases the number of talented employees who accept more attractive offers at other institutions or in the private sector; it reduces the ability of the University to attract the best qualified candidates to new or vacant positions; and it undermines the productivity and morale of current staff. It is critical to the successful operation of the University to keep all components of its compensation program at competitive levels.

In FY 1989, the University made some progress toward regaining the salary competitiveness lost in FY 1988 as a result of the State's "no salary" increase policy for higher education. The University's FY 1989 appropriation provided \$22.5 million above FY 1988 levels--targeted specifically toward salary increases for faculty and staff--and providing for a general salary increase program of 5.7%. Through a combination of increased tuition income and internal reallocations generated through base budget reductions, the University was able to supplement the State funding level, resulting in an overall salary increase program of 7%. However, in spite of these additional efforts, the University was unable to regain the level of salary competitiveness held in FY 1987 or to close the competitive gap to third place. Although FY 1990 funding levels should allow the University to make further progress towards salary recovery, continued progress--especially in terms of total compensation--is essential in FY 1991, and beyond.

To assess the University's competitive standing, numerous salary and compensation analyses are performed annually to determine the University's overall ranking among its peers. Due to the varied nature of the University workforce, separate analyses are performed for academic and nonacademic employees. Cash salary and employer contributions to fringe benefits for academic employees are assessed through comparisons with Big Ten and other peer institutions, while nonacademic salary and benefits comparisons are made with appropriate employee groups outside the University. Analyses are conducted for the cash salary component of the compensation package as well as for overall compensation.

The discussion which follows provides background information concerning the University's competitive position in FY 1989 and prior years, as well as projections for FY 1990. All projections are based upon FY 1989 base data and tentative information concerning FY 1990 salary and benefit increases at other Big Ten institutions. Because of the tentative nature of the FY 1990 data, care should be taken in making precise interpretations about FY 1990 salary rankings.

Faculty Salaries

FY 1988 budget reductions had a critical impact on the University of Illinois' competitive ranking in average cash salary. University faculty lost a substantial amount of ground compared to salary levels at other Big Ten institutions; and several years of progress toward achieving a third place ranking in the Big Ten was dramatically reversed. Although the University of Illinois granted faculty salary increases of 7% in FY 1989, these increases were not sufficient to compensate for the deterioration which occurred in FY 1988. In fact, results of recent studies indicate that the University continued to fall further behind the third ranked institution in FY 1989.

The following table displays the University's average cash salary relative to third place in the Big Ten for FY 1979 through FY 1989. Salaries displayed represent nine-month salaries for full-time budgeted faculty and are for all academic ranks combined, weighted to the University of Illinois' distribution of faculty by rank and term of appointment.

University Average Salary Relative
To Third Place In The Big Ten

<u>Fiscal Year</u>	<u>Illinois</u>	<u>Third Place</u>	<u>Dollar Difference</u>	<u>Percent Difference</u>
FY 1979	\$23,249	\$23,676	\$ 427	1.8%
FY 1980	25,187	25,485	298	1.2
FY 1981	27,592	28,018	426	1.5
FY 1982	30,171	31,021	850	2.8
FY 1983	31,640	33,733	2,093	6.6
FY 1984	34,563	36,048	1,485	4.3
FY 1985	37,050	38,654	1,604	4.3
FY 1986	40,235	41,262	1,027	2.6
FY 1987	42,448	43,481	1,033	2.4
FY 1988	42,572	45,878	3,306	7.8
FY 1989	45,763	49,526	3,763	8.2

Note that the gap to third place continued to grow in FY 1989, increasing from 7.8% in FY 1988 to 8.2%. FY 1989 saw the University further from reaching its goal of third place than at any other time in the previous decade. Also note the extent to which the FY 1988 budget reductions caused the gap to third place to increase, more than tripling from 2.4% in FY 1987 to 7.8% in FY 1988.

Table 6 displays average faculty salaries for the Big Ten institutions for FY 1988 and FY 1989. The relative ranking of each Big Ten institution is provided, as well as the percent increase in weighted average cash salary. The average faculty salary at the University of Illinois increased by 7.5% in FY 1989, compared to an average of 5.8% at the other Big Ten institutions. The University's salary ranking increased to fifth place in FY 1989, a gain of one position over its sixth place ranking in the prior year. Although the University successfully increased salaries at a rate higher than the Big Ten average, the third and fourth place institutions were equally successful--increasing salaries by 8.0% and 8.9% respectively and further widening the gap. The University now lags the fourth place institution by 1.5% (\$667).

More importantly, note that the University of Illinois continues to be clustered with four other institutions, well behind the top three Big Ten institutions as displayed in Figure 4. The University's position has been weakened in recent years, and unless the University succeeds in its efforts to regain salary competitiveness, its position will decline even further. It is critically important for the University to close the salary gap to the top institutions, as well as to achieve a specific ranking within the Big Ten.

As a result of tax increase legislation in FY 1990, the University will receive an appropriation of 8.7% in incremental funding for faculty and staff increases. A general salary increase program of 8% will be implemented for faculty and academic staff with the remainder of the 8.7% reserved for specially targeted needs of each campus, such as adjustments to graduate assistant minimum salary rates, increases in baseline rates established for faculty promotions, and supplemental increases to address salary equity issues. While an 8% salary increase in FY 1990 will likely be well above the Big Ten average, it will not be sufficient to restore the

TABLE 6
AVERAGE SALARIES FY 1988 - FY 1989
BIG TEN INSTITUTIONS

(9-month basis)

Institution	FY 1988		FY 1989		Percent Increase
	Weighted Average Salary	Rank	Weighted Average Salary	Rank	
ILLINOIS	\$42,572	6	\$45,763	5	7.5%
I	39,393	10	41,780	10	6.1
C	42,621	4	46,430	4	8.9
F	47,257	2	50,412	2	6.7
H	42,088	8	44,001	8	4.5
A	42,356	7	44,497	7	5.1
X	48,352	1	50,936	1	5.3
E	45,878	3	49,526	3	8.0
B	42,586	5	44,882	6	5.4
J	41,747	9	42,484	9	1.8
MEAN	\$43,485		\$46,071		5.9%
MEAN LESS ILLINOIS	\$43,586		\$46,105		5.8%

Source: University of Minnesota Comparison of Average Salaries and Fringe Benefits.

Data represents total institutions' full-time faculty, excluding clinical departments, whose primary responsibilities are teaching, research, or public service. Weighted to the distribution of faculty rank and term of appointment at the University of Illinois.

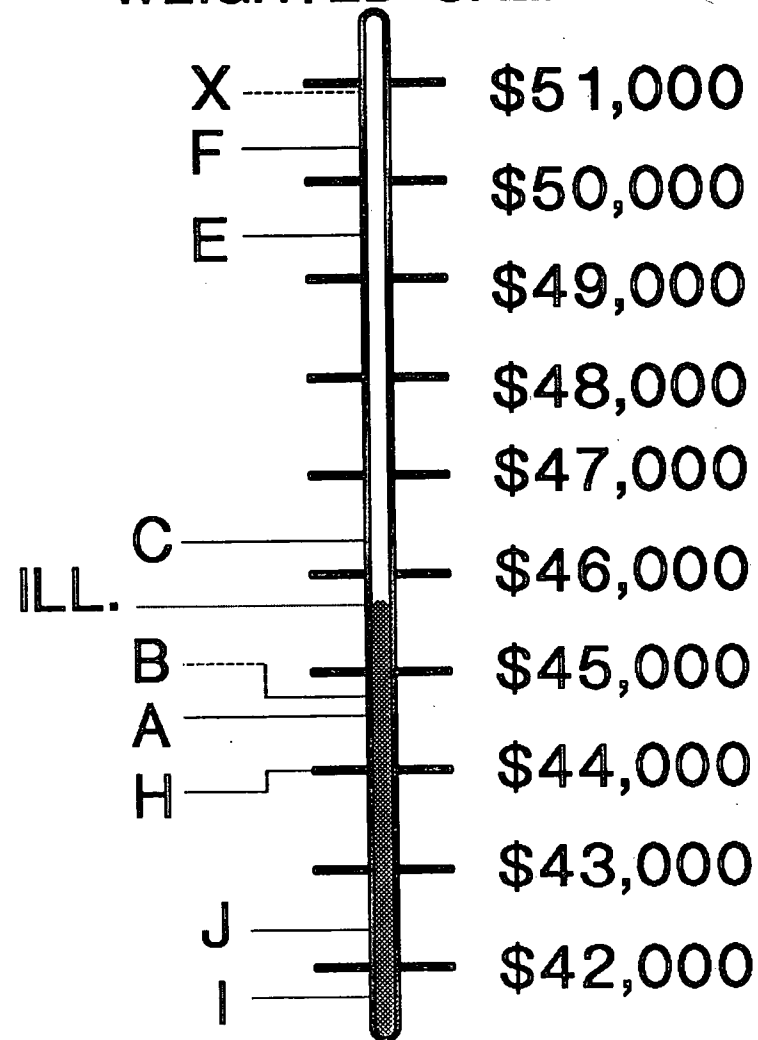
Distances to 3rd Place--Average Salaries

	<u>FY 1988</u>	<u>FY 1989</u>
Illinois	\$42,572	\$45,763
3rd Place	45,878	49,526
\$ Difference	3,306	3,763
% Difference	7.8%	8.2%

FIGURE 4

FY 1989 AVERAGE SALARY AMONG BIG TEN UNIVERSITIES

WEIGHTED SALARY



University of Illinois to the fourth place ranking it held among the Big Ten institutions in FY 1987.

Current estimates of FY 1990 salary increases at the other Big Ten institutions predict an average increase of 6.4%, as displayed in the table which follows.

Estimated FY 1990 Salary Increases At
Big Ten Institutions

<u>Institutions</u>	<u>Estimated FY 1990 Salary Increase</u>
ILLINOIS	8.0%
I	6.0
C	10.0
F	5.0
H	5.0
A	7.0
X	6.0
E	4.0
B	7.7
J	7.0
MEAN	6.6%
MEAN LESS ILLINOIS	6.4%

Based upon preliminary data, the University's FY 1990 salary ranking is not expected to change. Although the gap to third place should be reduced, the gap to fourth place will widen, revealing the intensely competitive situation which the University faces. Figure 5 displays the actual FY 1989 and projected FY 1990 ranking of Big Ten faculty salaries graphically. Note that while the University can be expected to retain the fifth position, it will still rank well below the top three Big Ten institutions and will lag the fourth place institution by approximately \$1,600. The precise size of the FY 1990 gap to third place in average faculty salary cannot be calculated until final information on FY 1990 salaries is obtained from peer institutions. However, the gap can be expected to decrease by several percentage points, marking a strong beginning toward recovery of ground lost the past two years. Still, as illustrated in Figure 6, the University of Illinois will continue to lag further behind the third ranked institution than in the years preceding the budget reduction in FY 1988.

FIGURE 5

TENTATIVE WEIGHTED AVERAGE SALARY AMONG BIG TEN UNIVERSITIES

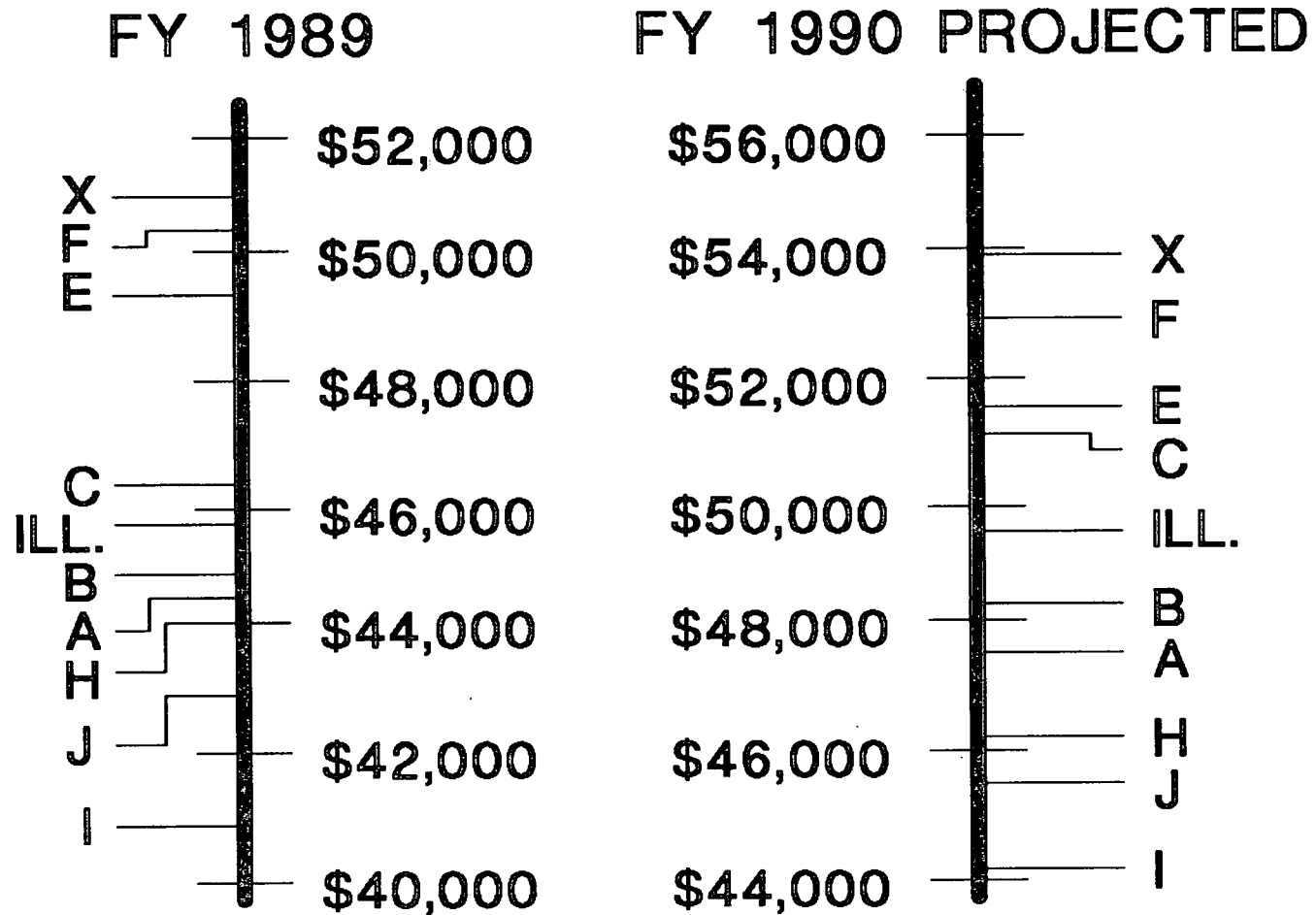
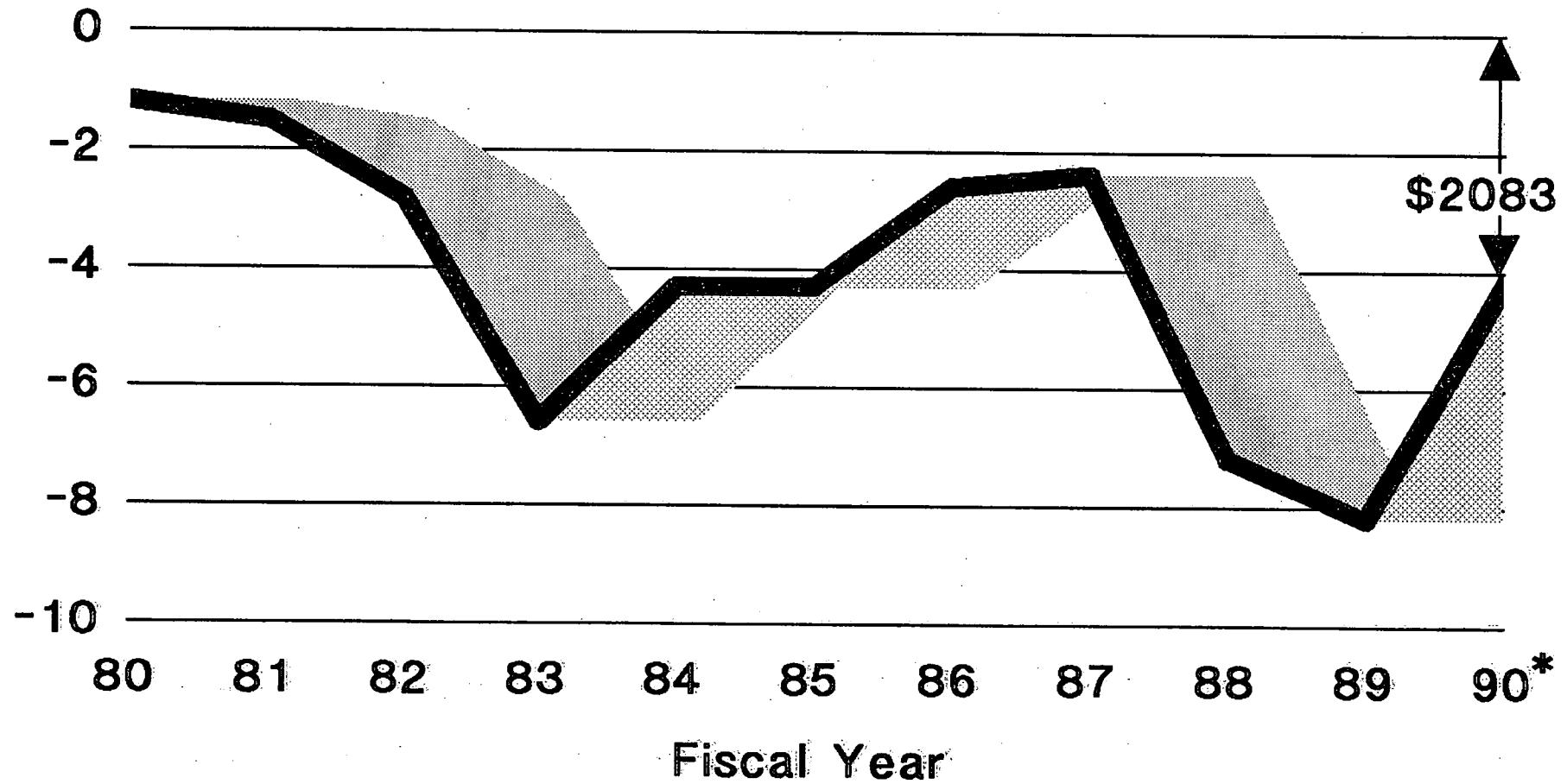


FIGURE 6

U of I AVERAGE FACULTY SALARIES vs. THIRD PLACE BIG TEN AVERAGE



*PROJECTED

Salary increases tied to inflation projections of 6% represent the best current estimates of FY 1991 salary increases at the other Big Ten institutions. Thus, an increment of this magnitude represents the University's assessment of salary increase funding needs for FY 1991. However, with a 6% increase, the University is not expected to recover the competitive standing it had achieved through FY 1987, and additional funds for continued recovery will be required beyond FY 1991.

Faculty Fringe Benefits

While the University's salary ranking improved by one position in FY 1989, it continues to rank last in the Big Ten in total compensation. Chronic deficiencies in fringe benefits programs have caused the University to continually rank poorly compared to other Big Ten schools, with the University ranking no higher than seventh place in total compensation since FY 1979. As described in the salary increase section of this request, FY 1988 was a particularly problematic year. The University fell to sixth place in average salary and dropped to last place in total compensation.

Table 7 compares the University's ranking among the Big Ten institutions for FY 1989 based on weighted average salary and weighted average compensation. Weighted average compensation is calculated by adding the dollar value of the employer's contribution to fringe benefits to weighted average cash salary. The employer contribution to fringe benefits is also provided as a percent of average cash salary. The University now lags the third ranked institution by 17.4%, compared to 15.9% in FY 1988.

Note that the University's contribution toward fringe benefits as a percent of average salary remained at 10.5% in FY 1989, compared to a Big Ten average contribution of 24.1%. (When adjusted for Social Security, the average Big Ten contribution equals 18.8%, still substantially higher than the University of Illinois contribution level.) At the third ranked institution, the employer contribution to fringe benefits increased from 18.9% in FY 1988 to 19.9%.

Figure 7 displays the University's relative ranking in both average cash salary and total compensation for FY 1989. Note that while most other institutions retain the same relative position in the total compensation comparisons as in the salary comparisons, the University of Illinois'

TABLE 7
AVERAGE COMPENSATION FY 1989
BIG TEN INSTITUTIONS

(9-month basis)

<u>Institution</u>	<u>FY 1989 Weighted Average Salary</u>	<u>Rank</u>	<u>FY 1989 Weighted Average Compensation</u>	<u>Rank</u>	<u>Percent Increase</u>
ILLINOIS	\$45,763	5	\$50,564	10	10.5%
I	41,780	10	53,097	9	27.1
C	46,430	4	57,283	5	23.4
F	50,412	2	61,958	1	22.9
H	44,001	8	54,741	7	24.4
A	44,497	7	56,187	6	26.3
X	50,936	1	60,708	2	19.2
E	49,526	3	59,380	3	19.9
B	44,882	6	57,385	4	27.9
J	42,484	9	54,160	8	27.5
MEAN	\$46,071		\$56,546		22.7%
MEAN LESS ILLINOIS	\$46,105		\$57,211		24.1%

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Source: University of Minnesota Comparison of Average Salaries and Fringe Benefits.

Data represents total institutions' full-time faculty, excluding clinical departments, whose primary responsibilities are teaching, research, or public service. Weighted to the distribution of faculty rank and term of appointment at the University of Illinois.

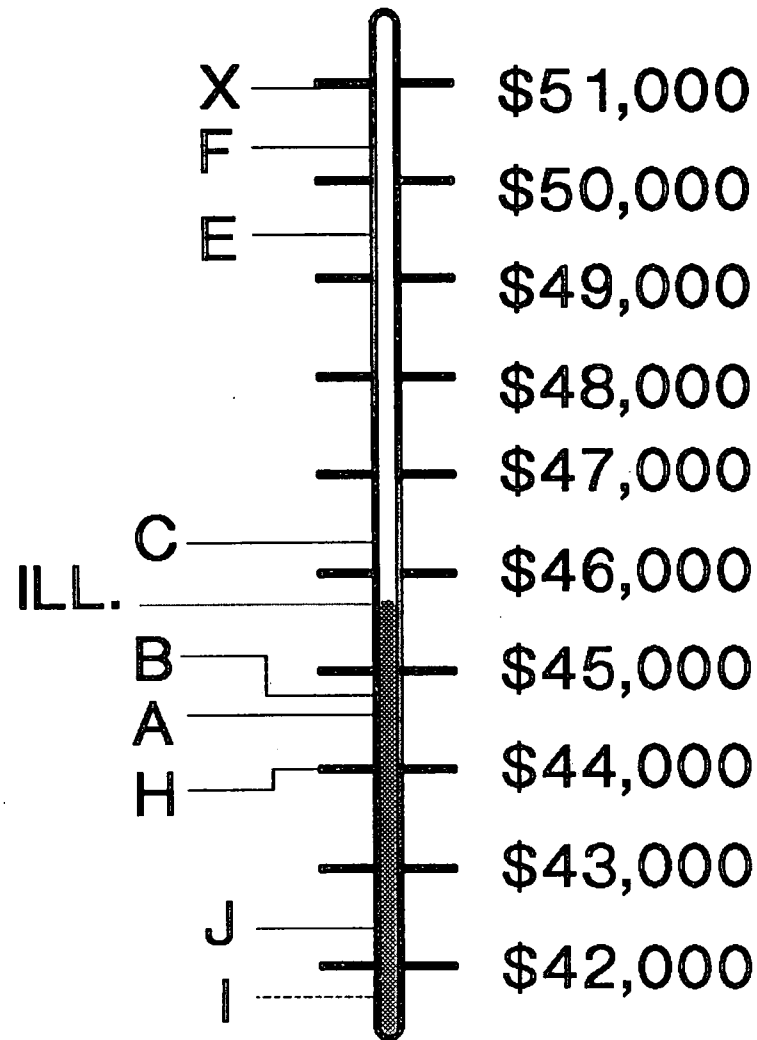
Distances to 3rd Place--Average Compensation

	<u>FY 1988</u>	<u>FY 1989</u>
Illinois	\$47,046	\$50,564
3rd Place	54,534	59,380
\$ Difference	7,488	8,816
% Difference	15.9%	17.4%

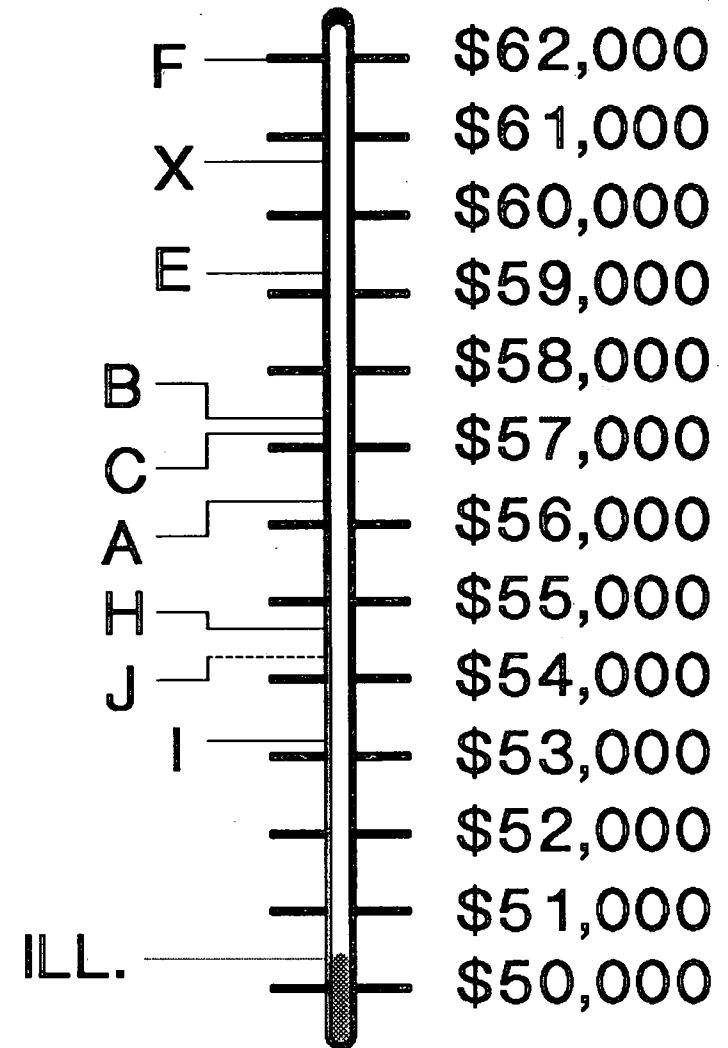
FIGURE 7

FY 1989 AVERAGE SALARY & COMPENSATION AMONG BIG TEN UNIVERSITIES

WEIGHTED SALARY



WEIGHTED COMPENSATION



competitive position drops dramatically. In the compensation comparisons, it is clear that Illinois ranks last in the Big Ten, significantly behind even the next lowest ranked institution. The University's low ranking in the amount of its employer contribution toward fringe benefits undermines its efforts to achieve a third place ranking and seriously weakens its competitive standing in terms of total compensation. Projections indicate that the University of Illinois, even when funded at the 8% level for FY 1990, will not be able to advance beyond its last place ranking in total compensation.

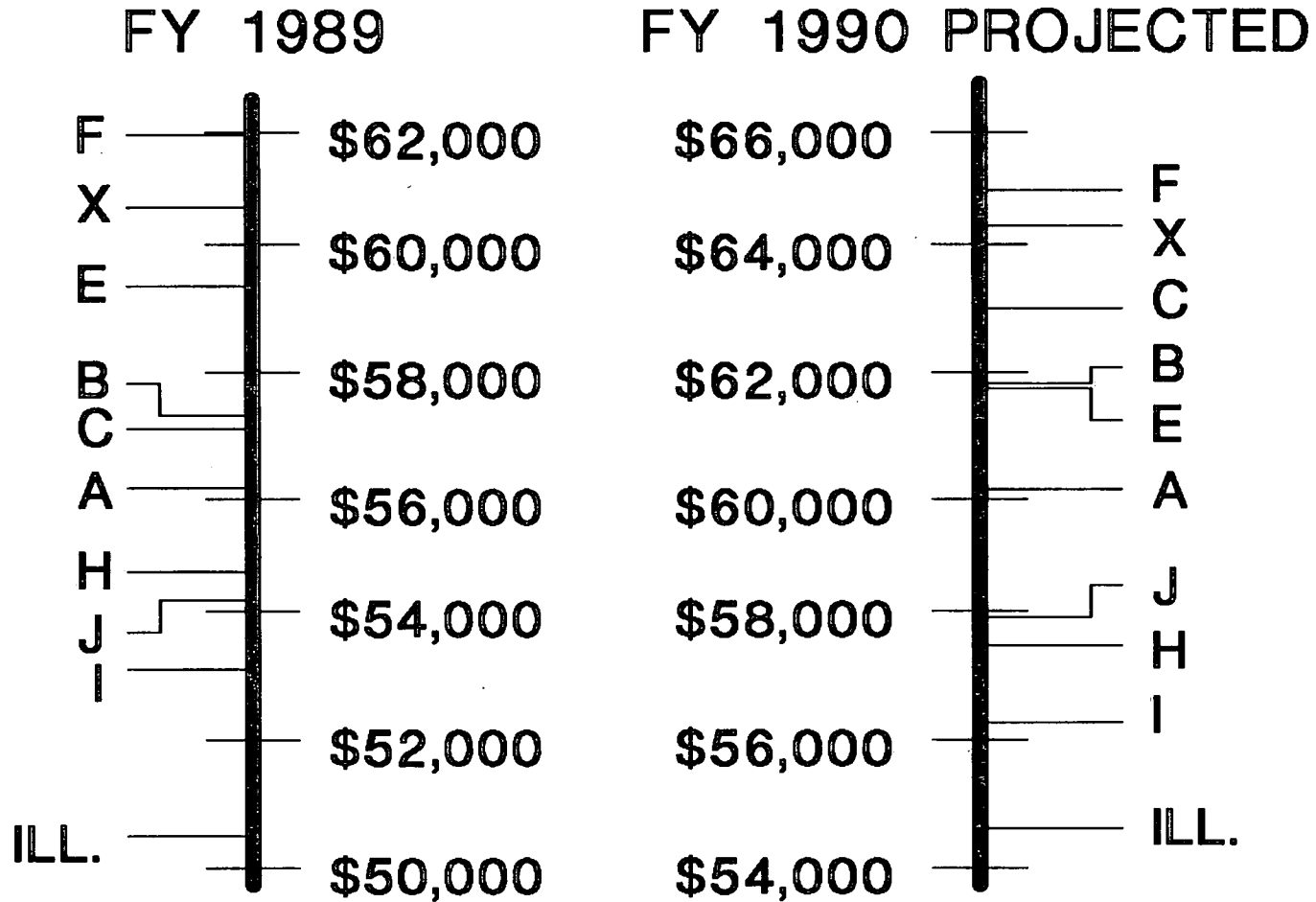
Figure 8 displays the actual FY 1989 and projected FY 1990 ranking of Big Ten weighted average compensation graphically. Although the University of Illinois is expected to retain last place, the gap to the next lowest ranked institution can be expected to decrease by approximately two percentage points in FY 1990. However, the University still has far to go before it can recapture the seventh place ranking it held in FY 1987 and eventually progress to a third place ranking among the Big Ten institutions.

Again, the total compensation figures in Table 7 and Figure 7 represent the combination of average cash salaries and employer contributions to a set of common fringe benefits. When fringe benefits are separated from salaries and reviewed as a separate entity, the University of Illinois data are even more dismal. While some of this difference can be attributed to the fact that the University does not participate in Social Security, the University continues to lag behind other Big Ten institutions in the amount paid for other elements of the fringe benefits package. A recent comparison of the FY 1989 employer contributions to fringe benefits in the Big Ten yielded the following information.

1. The University of Illinois ranks last in overall employer contributions to retirement.
2. The University of Illinois is competitive in regards to its employer contributions to employee health and dental insurance, but ranks last in employer contributions to dependent health insurance.
3. The University of Illinois ranks last in the amount of employer-paid life insurance.

FIGURE 8

TENTATIVE WEIGHTED AVERAGE COMPENSATION AMONG BIG TEN UNIVERSITIES



4. The University of Illinois ranks last in the percent of salary ensured under the long term disability plan.
5. Five of the Big Ten institutions grant a partial reduction in tuition and fees to staff dependents. The University of Illinois offers no tuition waiver of any kind for dependents of employees.

The University's lack of competitiveness in providing these essential elements of the fringe benefits package substantially weakens its overall competitive standing in total compensation. To be competitive, the fringe benefits package offered by the University must not further detract from the salary component, which in recent years, has become less attractive compared to peer institutions. A recent survey of University faculty and staff indicated that they do indeed perceive the University's fringe benefits programs to be deficient--a perception that is borne out by the comparative data just cited. It has become clear that the University must address the inadequacy of its fringe benefits program if it is to continue to compete successfully for top faculty and staff.

Nonacademic Salary Comparisons

For nonacademic staff, annual salary comparisons are normally made with employers outside the University who are most competitive for the services of that staff. In some cases, comparisons are made with local employers; in other cases, broader comparisons are made if the market for a particular market skill is statewide or greater. The composite survey of the market, which compares salary range midpoints for comparable employment levels, is incomplete at this time. However, preliminary market data show increases ranging up to 5% depending upon the assumed markets for the wide range of employee groups.

The data in the table which follows compare selected University of Illinois grade midpoints with estimated market midpoints.

University of Illinois Grade Midpoints
Compared to Market Midpoints

<u>Grade/ Location</u>	<u>UI FY 1989 Midpoint</u>	<u>Projected Market as of 9/1/89</u>	<u>UI FY 1990 Grade Midpoint*</u>	<u>% Behind Market</u>
5 Chicago	\$12,741	\$13,894	\$13,378	3.9%
5 Urbana	11,772	12,937	12,361	4.7
14 (both)	18,916	21,212	19,862	6.8
19 (both)	24,463	27,830	25,686	8.3
33 (both)	50,581	58,215	53,110	9.6

*Based on 5% range adjustment.

(Salaries displayed represent University and market midpoints for employees within each pay grade. Actual average salaries are substantially lower.)

In addition to market comparisons among competing employers, salary comparisons between nonacademic employees and State of Illinois Code Departments are reviewed annually to gain a general impression of relative equity among University of Illinois employees and their counterparts in State government. Based upon data compiled by the Board of Higher Education, the following comparison can be made.

Salary Deficiencies Between University of Illinois
Nonacademic Employees and State of Illinois
Code Department Employees, FY 1985 - FY 1989

	<u>FY 1985</u>	<u>FY 1986</u>	<u>FY 1987</u>	<u>FY 1988</u>	<u>FY 1989</u>
Chicago Campus	-5.1%	-6.4%	-5.2%	-6.4%	-5.4%
Urbana-Champaign	-14.8%	-14.3%	-15.3%	-16.9%	-19.2%

These comparisons make no attempt to adjust salaries for regional differences in the cost of living or for regional differences in market competition. Thus, they are most useful for gauging changes over time rather than absolute differences. Regardless of which measure is employed, it is clear that the University's nonacademic salary levels significantly lag those of other comparable employers.

Normally, the salary increase program for Civil Service employees on the step plan is comprised of (1) a market movement increase awarded on the appropriate effective date, (2) a periodic increase awarded on the employee's

anniversary date, and (3) for selected employees, a superior performance increase, awarded to approximately 20% of step plan employees. However, to compensate for the "no salary increase" policy in FY 1988, the FY 1989 salary increase program was designed to provide salary increases in the most rapid manner possible and ensure that all open range employees were eligible for the full increase. Therefore, no periodic increases were granted and all eligible open range employees received a market movement increase of 7% effective at the start of the FY 1989 budget year.

The FY 1990 salary increase program for nonacademic employees will yield an overall increase which will approximate that granted to academic employees. Nonacademic employees will receive a 5% market movement increase at the beginning of the budget year and a 4% periodic increase on their respective anniversary dates. Additionally, a 4% superior performance increase will be awarded to approximately 20% of step plan employees. In a further effort to improve market competitiveness, selected classes of employees have been regraded and on average will be granted an additional 5% increase in FY 1990. While this level of funding will help to improve salary competitiveness for nonacademic employees, it will not compensate entirely for the reduced funding levels in recent years. Additional funding of 6% is requested for FY 1991 to continue the recovery process, as well as to keep pace with the projected level of inflation.

Nonacademic Fringe Benefits

The fringe benefits offered to nonacademic employees are more appropriately compared to the benefits provided to employees in the private sector. To assess its competitive standing in the market for nonacademic employees, the University participates in several benefit surveys of the local market. Results of these studies indicate that while benefits for University nonacademic staff are generally equal to or greater than other Big Ten and local employers for "time-off" related benefits (holidays, vacation, sick leave), University benefits are less competitive in regards to employee life insurance, dependent health insurance, and retirement.

Due to the diverse nature of the University's nonacademic workforce, it is difficult to draw specific conclusions concerning nonacademic compensation. The competitiveness of the University's compensation program

varies for the wide range of nonacademic employee classifications and salary levels, and the University is more competitive in the markets for some employee classifications than for others. However, salary comparisons with both local and State markets indicate that the University of Illinois lags the market at all salary levels.

The University's fringe benefits program for nonacademic employees, while perhaps more competitive than that currently offered to academic employees, is still deficient in some components of the benefits package, particularly insurance related benefits. When fringe benefits are combined with nonacademic salaries (which are generally less competitive than the salaries of academic employees), it is clear that the University's compensation program lacks competitiveness for nonacademic as well as academic employees.

FY 1991 Benefits Improvement Request

The University of Illinois' total compensation program continues to be seriously deficient in comparison to the compensation programs offered by its peers. Over the course of the last decade, University contributions to the cost of fringe benefits have been far less than the contributions made by other Big Ten institutions; and as a result, the University's fringe benefits programs have failed to achieve the same level of competitiveness realized by the cash salary component of its compensation package. Recent comparisons indicate a strong necessity to direct the University's efforts toward increasing its contributions to fringe benefits in addition to increasing cash salaries.

For the fifth consecutive year, the FY 1991 budget request proposes a multiyear phased program targeted toward the enhancement of fringe benefits. In addition to the incremental funds requested for cash salary increases, the University seeks an additional increment for the financing of fringe benefits improvements. Although the Board of Higher Education recognizes the need for fringe benefit improvements and has recommended funding for this purpose in prior years, reduced funding levels have necessitated that all available funds be applied to cash salary increases. In FY 1990, the University's entire salary increase increment will be

directed toward cash salary increases in an effort to recover salary competitiveness and regain the salary ranking lost in recent years.

The Department of Central Management Services has also recognized the need for fringe benefit improvements, and in FY 1990, implemented several changes aimed at expanding and improving the fringe benefits provided to State employees. One such enhancement is an increase in the amount of employer-paid life insurance provided from 50% of salary to 75% of salary, with plans to increase coverage to 100% in FY 1991. Another enhancement is the expanded Dental Benefits Plan which will include periodontics, dentures, and orthodontia (under age 19) coverage. In regards to health insurance, however, these changes will occur in the form of trade-offs between plans as the State strives to increase coverage while at the same time implementing various cost containment measures. For instance, under the Quality Care Plan, outpatient psychiatric care coverage will increase from \$25 per visit to \$30 per visit. In contrast, under the HMO Plan, employee out-of-pocket premium costs have increased; coverage for doctor's office visits will change from full coverage to a \$10 office visit copayment at many HMO's; and there may be additional charges for filling a prescription with brand name drugs. Although these changes are a step in the right direction towards enhancing fringe benefits, more improvements are necessary.

For the University to become competitive in terms of total compensation, the University will need to implement a multiyear phased program targeted toward the improvement of fringe benefits--with the goal of first regaining a seventh place ranking in total compensation, and ultimately achieving a third place ranking amongst its peers. To address the needs of both academic and nonacademic staff, the FY 1991 budget request seeks an additional 2% in incremental funds to target its compensation program toward resolving the most pressing deficiencies of each employee group. Without this funding, the University would require double digit salary increments over the next several years if progress is to be made toward achieving a competitive ranking in total compensation.

State Universities Retirement System (SURS)

Among the benefit comparisons cited above, the health of the State Universities Retirement System (SURS), as well as the University's relative

competitiveness among peer institutions with respect to retirement benefits, has been a matter of prime concern for several years for both individual employees and for leaders within higher education institutions and the SURS system. Any discussion of fringe benefits improvements for higher education in Illinois must include a strong call for adequate funding of the SURS program to ensure that existing benefits will remain secure. Appendix I contains a more complete discussion of the SURS funding situation.

It should also be understood, however, that while achieving adequate funding for SURS remains a key concern for FY 1991 and for future years, funding improvements for SURS will not, in and of themselves, improve either the benefits available to University employees or the University's competitive position among peer institutions. It is urgent that the University move forward on both fronts. The adequacy of SURS fiscal support must be assured. So, too, must improvements in the University's competitive position in total compensation be achieved.

PRICE INCREASES
(\$11,293,800)

Introduction

Like all sectors of the economy, higher education experiences inflationary pressures. These pressures reduce the strength of the financial base of the University and decrease its ability to maintain high quality programs and services. Though these pressures have diminished from the double digit inflation of the early 1980's to a more moderate level, inflation continues to erode the University's base budget support. It is important to recognize that inflation has moderated, but not dissipated, and that these pressures must still be addressed budgetarily by the University and the State.

Increases in funding are requested annually by the University to finance expected price increases in the goods and services required for the basic operation of on-going academic programs and support facilities. These requests are based upon a variety of inflation projections. Due to the unique characteristics of different components of the University's budget, four separate price increase requests are submitted for FY 1991. Requests are included for: (1) "general" price increases; (2) utilities; (3) library acquisitions; and (4) sick leave liability, Medicare, and Worker's Compensation cost increases.

In determining its requirements for general price increase funding, the University analyzes a variety of economic indicators which measure inflationary trends and their impact on the price of goods and services purchased by the University. Due to the lack of general price increase appropriations in four of the past eight years, the University has failed to keep pace with inflation in many areas of its operations even though the rate of inflation has abated. In FY 1988 the University's base operating budget was reduced, resulting from an overall reduction of 4% in General Revenue Fund (GRF) support. In FY 1989 the University received incremental funds for salaries increases only. Although FY 1990 appropriations provide for general price increase funding of 5%, this level of funding will not compensate for the purchasing power lost over the previous two years of zero appropriations.

The University's utilities price increase request is formulated from expected levels of energy consumption and projected costs for the commodities and services included in the utilities budget. Past experience with the high variability in the price of fossil fuels is a universal problem, and the State has recognized and supported a differential utilities price increase since FY 1975. Although the fossil fuel markets have moderated in recent years, natural gas prices increased dramatically in the spring and summer of 1989--resulting in utility cost increases which undoubtedly will exceed the general inflation rate in FY 1990.

State support of a differential price increase for library acquisitions has received intermittent support with special funding in FY 1980, as well as FY 1985, FY 1986, FY 1987, and FY 1990. However, no incremental funding was provided in the intervening years or in FY 1988 and FY 1989. The University of Illinois Libraries house one of the largest collections in the world and are sufficiently different from other state libraries to warrant special recognition for the severe price increase pressures which they experience in the area of acquisitions and periodicals. This special recognition is critical if the University is to maintain the current quality of its collections, which are a major resource not only to the University but to other libraries throughout the State.

In recent years, several specialized expenditures related to the University's payroll operations have demanded an increasingly larger allocation of funds to cover associated costs. Increased expenditures for Worker's Compensation claims, sick leave termination payments, and federally mandated Medicare payments have strained University resources; and State appropriations have been inadequate to cover the actual costs of these programs. Special price increase funding is therefore requested to cover the projected costs of these programs in FY 1991.

Further discussion of these price increase requests are included in the following narrative sections.

General Price Increases (\$5,516,100)

The University's requirements for general price increase funding are determined through a comparison of past funding levels with inflation and several quantified economic indicators. In addition to using historical comparisons which show cumulative gains and losses due to inflation, economic forecasts are used to project the impact of inflation on prices during the coming budget year. The University analyzes a variety of common and specialized economic indicators which measure inflationary trends and their impact on business, government, and academia. These analyses yield a general price increase request which, if funded, would permit the University to regain some of its past losses to inflation and maintain its purchasing power during the FY 1991 budget year.

The diversity of University activities suggests that no single market indicator can adequately predict the effect of price increases on the University as a whole. Accordingly, three inflationary measures are generally used to assess the impact of price increases on University activities. All of these indicators are of the "market basket" variety, combining differentially weighted cost components into a single index. Holding the type and quantity of a commodity in the market basket constant over time provides an indicator of changes in the resources required to maintain a constant level of consumption over the period.

The first of the indices used, the Gross National Product Implicit Price Deflator, defines that portion of the overall Gross National Product (GNP) growth that is attributable to factors other than the real growth in the production of goods and services in the economy. The second indicator, the Consumer Price Index (CPI) (Less Energy) measures the change in actual prices paid by urban households for items such as food, housing, and transportation. Energy costs are excluded since a separate utilities cost increase request is defined in the following section. The final index used is the Higher Education Price Index (HEPI). This index measures changes in the level of general expenditures made by colleges and universities from current funds for items supporting instructional programs and departmental research activities. Sponsored research and auxiliary enterprise expenditures are excluded from the HEPI.

A graphic display of these three indices compared with the historical trend line for University appropriations is provided in Figure 9. Data for FY 1990 and FY 1991 are based upon projections from the WEFA Group. The graph depicts a strong positive relationship among these inflation indices, and a considerable distance between the price increases estimated by these indicators and University appropriations over the last ten years. Specifically, the University has received no general price increase funding in four of the past eight years.

The general price increase appropriation for FY 1990 is 5%. Although this is a large improvement over past years when the University received no general price increase funding, and over FY 1988 when General Revenue Fund support actually declined, it will do little to alleviate past disparities between State appropriation levels and the University's price increase needs.

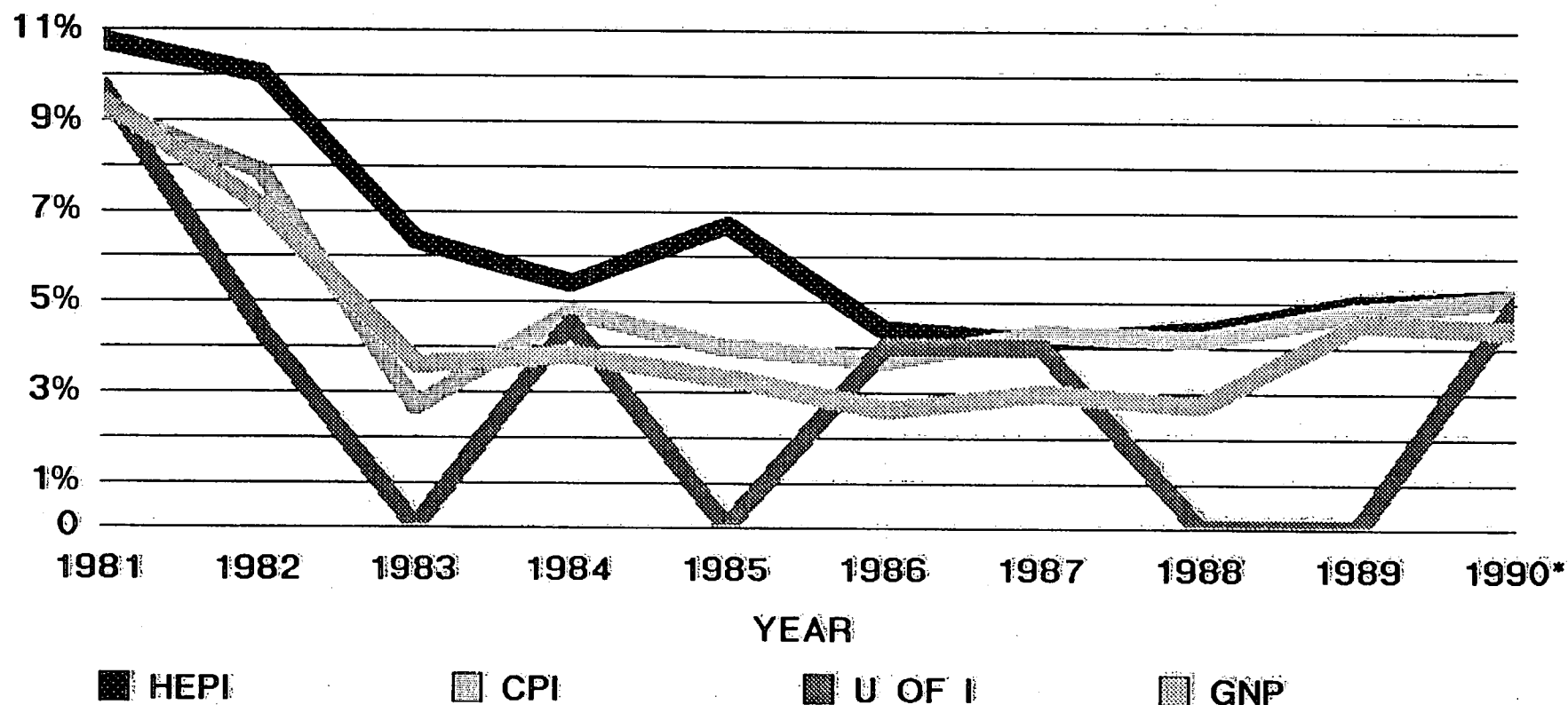
A review of the widening gap between inflation and University appropriations is displayed in Figure 10. This graph illustrates the wide disparity between actual general price increase appropriations to the University and inflation levels as estimated by the GNP, CPI, and HEPI indicators for FY 1980 through FY 1989.

For FY 1991 the general price increase segment of the budget request addresses the dual objectives of (1) obtaining funding sufficient to prevent further losses to inflation and (2) seeking at least partial recovery of past losses. Projections of the GNP deflator and the CPI result in estimated increases of greater than 5% in FY 1991. A general price increase of 6% is therefore required to avoid further losses to inflation in the coming year. This request does not provide for a full recovery of the purchasing power lost in the last decade.

FIGURE 9

ANNUAL INFLATION INCREASES VERSUS UNIVERSITY APPROPRIATIONS

PERCENTAGE CHANGE



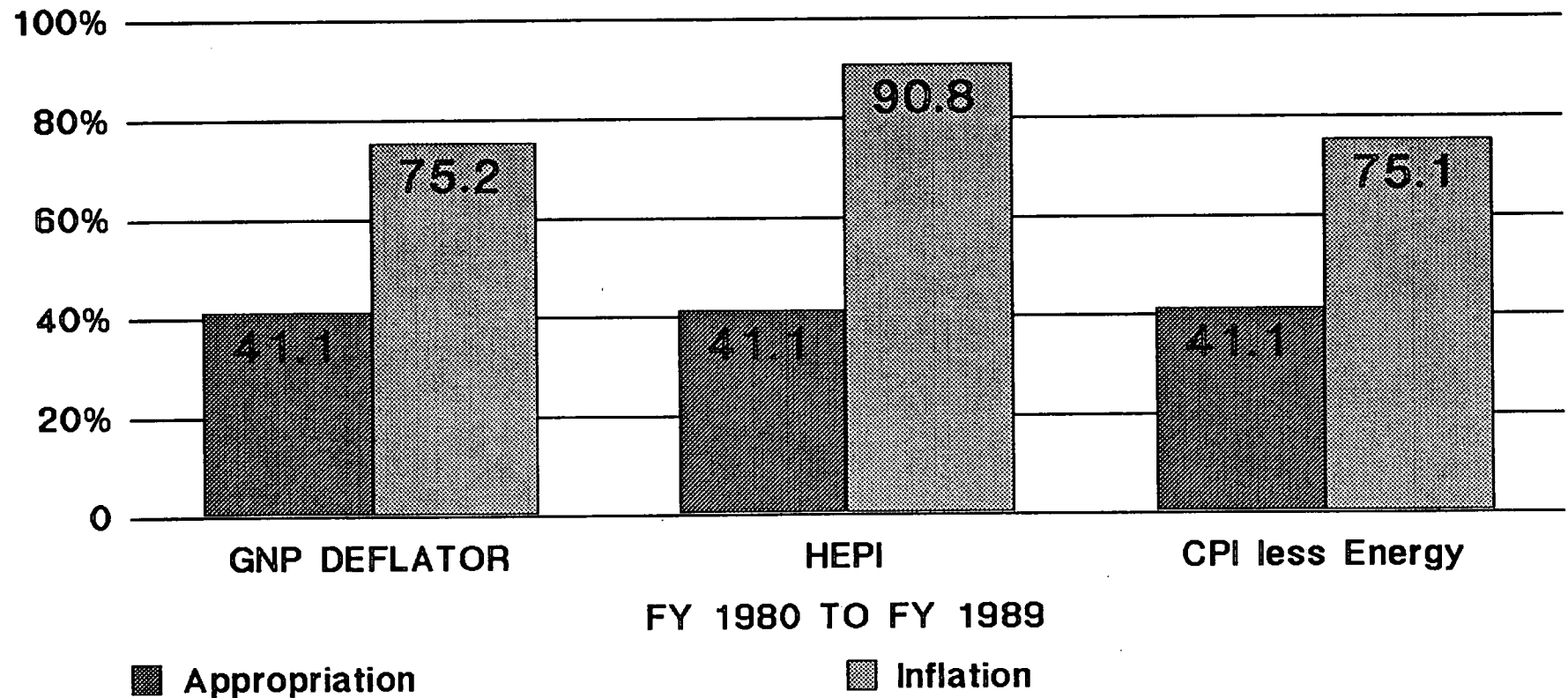
* PROJECTED

FIGURE 10

CUMULATIVE IMPACT OF INFLATION

APPROPRIATION vs. INFLATION

COMPOUND PERCENTAGE



Utilities Price Increase (\$1,951,000)

The FY 1991 utilities increment request of \$1.951 million represents a 5.25% increase over the projected FY 1990 direct utilities base. This estimation is formulated from expected levels of consumption and projected costs for the components which comprise the utilities budget of the University of Illinois. These expectations and projections are derived from a variety of sources including market trend analyses of the commodities and services of the utilities budget, negotiated contracts, energy trade publications, projected price indices, and consultations with the University's Operation and Maintenance directors.

The incremental utilities budget request for FY 1991 is characterized by (1) significant electricity cost increases; (2) moderate rates of increase for natural gas and fuel oil; and (3) continued increases in the consumption of electricity at both campuses. These components and their respective impacts upon the calculation of the FY 1991 utilities budget increment will be examined in the discussion which follows.

For FY 1991 projected increases in the cost and use of electricity will be the most significant influences on the utilities budget. Electricity expenditures at Chicago and Urbana-Champaign are by far the largest single expense component of the utilities budget; and consequently, small increases in pricing have a significant impact on budget requirements. Based on projected FY 1990 budget expenditures, a 1% increase in the electricity unit cost would represent a total cost increase of approximately \$200,000. In FY 1991, for the two campuses combined, the electricity unit cost is expected to rise by approximately 6%. Additional increases in electric expenditures are represented by increased consumption related to growth in current program requirements. With expanded hours for the operation of laboratories, the increased utilization of sophisticated equipment and continued energy increases for newly remodeled space, electricity needs are expected to increase for FY 1991.

Based upon a recent Illinois Commerce Commission (ICC) ruling, the Commonwealth Edison Company which supplies purchased electric power to the Chicago campus, will at the beginning of FY 1991 have increased its electrical rates by 9% over current levels. This increase will represent a 4.5% increase in the expenses of the Chicago campus for FY 1991.

Illinois Power Company (IPC), the utility which supplies purchased electric power to the Urbana-Champaign campus, has also had a rate increase request implemented by the ICC. Unfortunately, from the perspective of IPC the increase granted was much too low. In July, 1989, IPC asked for an additional electrical rate increase of 29%. Given the past history of the ICC actions, it is projected that a rate increase of approximately 14% will be approved with an expected 7% payable in FY 1991 expenditures.

Based on these projected increases it is expected that \$1.1 million of the total utilities increment request will be needed to provide for increases in the cost of providing electrical power to the two campuses.

Natural gas is the primary boiler fuel at the University of Illinois. Forecasts for FY 1991 point to an increase in the price of natural gas due to reduced exploration and production, and to the increased demand for this cleaner burning fossil fuel.

General forecasts for FY 1991 natural gas cost and supply indicate that this period will be marked by a combination of forces driving available supply down and price up. These forces are (1) accelerated pricing schedules during the heating season, the period of highest usage for the University; (2) the firming of world oil prices which reduces the ability of the University to switch between the use of fuel oil and natural gas, a factor which serves as a check on the cost of both fuels; (3) the slowing of drilling activity and the resultant declining supply brought about by past low costs, and (4) implementation of "open season", a concept to be promulgated by the Federal Energy Regulation Commission to encourage increased transportation and consumption of gas in the Northeast. Industry analysts state that the combination of these factors will serve to deflate the gas supply "bubble" and increase gas prices. There are no new supply developments that would encourage a decrease in this rate of growth. It is expected that in FY 1991, gas costs could be as much as 12% higher than the increased costs currently projected for FY 1990. A moderation of this prediction to 9% has been incorporated within the FY 1991 University of Illinois utilities budget request.

Finally, this review of the University's FY 1991 heating fuels costs is not complete without reviewing the coal costs of the Urbana-Champaign campus. Currently, the Abbott Power Plant is using a relatively low

sulphur coal when compared to the Illinois average; and it is expected that this particular coal will become more expensive when Federal acid rain legislation is enacted during FY 1990. As a result, in FY 1991, the University expects an increase of approximately \$3/ton for the cost of coal.

Lastly, the cost of providing sewer and water service must be considered. Both campuses have experienced 15-18% increases in these services for FY 1990. For FY 1991, increases in water and sewer prices should be moderate, and rate increases for these services are expected to track the general inflation rate of 4-5%.

The combined effects of these estimated consumption needs and the projected commodities and utility rate increases described above yield a composite increase of 5.25% for FY 1991, a \$1.951 million increment above the University's FY 1990 direct utilities base. The various elements of the utilities budget, particularly the electrical cost components, will receive careful monitoring throughout the FY 1990 budget development process. Unpredictability of ICC rate case decisions and the volatility of the oil and natural gas markets demand continual attention to potential cost changes, changes which could require adjustments to the projections upon which the current incremental request is constructed.

Library Price Increase (\$1,066,400)

The price increase funding provided for the University Libraries over the three year period from FY 1987 to FY 1989 totaled an annualized increase of 0.8% on a budget base of \$6,859,482. The budget increments requested for that same period simply to maintain collections at the FY 1986 level of expenditure were 7% for FY 1987, 12% for FY 1988, and 20% for FY 1989. The resulting accumulated shortage in funding for this three year period, as shown on Table 8, has had a devastating effect on the Library's materials budget. Although the FY 1990 budget provides price increase funding of 11% which will permit the Libraries to keep pace with projected levels of inflation, funding at this level will do little to compensate for the extent to which the Libraries' collections have been damaged over the past three fiscal years.

Over 4,434 journal and serial titles costing \$438,057 have been cut at the UIUC Library in a carefully planned serials reduction program, representing 13% of UIUC's present journal and serials budget of \$3,366,352. Many of these research materials are not located elsewhere in the State and consequently are no longer available for interlibrary loan through LCS. The UIC Library has instituted a policy limiting the funds available for the purchase of serials. Once this limit is reached, a new serial may not be added unless one is cancelled. When one considers that over this same three year period the Libraries have been able to order only a limited number of new serials, while at the same time reducing the number of monographs they can annually purchase, damage to the collections for serving both a campus and statewide clientele is becoming intolerable. These very recent deficiencies must be addressed immediately in budget increases to be approved for this and future years. If not, the UIUC Library will slip from its nationally acclaimed position as the largest public supported academic library in the nation; and both campuses' libraries will lose their ability to fulfill their mission for the University.

The need to support library collections at a much higher level is apparent. The University of Illinois Libraries are central to the support of academic programs and research activities throughout the University. In addition to serving the immediate needs of the local constituency, the Libraries act as a statewide resource for both on-site visitors and remote

TABLE 8
UNIVERSITY OF ILLINOIS LIBRARY RESTORATION

	1986	1987	1988	1989	1990
	-----	-----	-----	-----	-----
1. Acquisitions Base	\$6,859,482				
2. State Funded Price Increase		2.5%	0.0%	0.0%	11.0%
3. "Theoretical" Base (#1 x #2)*		\$7,030,969	\$7,030,969	\$7,030,969	\$7,804,376
4. Higher Education Price Index for Books and Periodicals		9.8%	11.7%	10.0%**	10.0%**
		\$7,531,711	\$8,412,921	\$9,254,214	\$10,179,635
5. "Required" Base (#1 x #4)					
6. Restoration (#5 - #3)		\$500,742	\$1,381,952	\$2,223,245	\$2,375,259

*Represents prior year's base adjusted for incremental increases. Does not include reallocation.

**Estimated

users of the vast interlibrary loan system in which the Libraries participate. For the Libraries to meet their continuing obligations, it is essential that adequate funding be provided to maintain an appropriate level and quality of acquisitions. This funding must be maintained to meet annual increases in the cost of materials as well as to meet demands caused by increased statewide usage of the collection, the explosion of information and knowledge being published in traditional and new formats, and new and expanded campus programs requiring additional library resources.

Funding increases for FY 1991 will be especially critical and must be sufficient to offset the spectacular drop in the value of the dollar against Japanese and Western European currencies in the last four years (ca. 50%), as well as past inadequate funding increases from the State, particularly as provided in FY 1987 (2.5%), FY 1988 (0%), and FY 1989 (0%). A budget increase of less than 12% in FY 1991--to help offset losses incurred over the past several years and fully fund current price increases--will continue to have a devastating effect upon the research capabilities of all University faculty and students and reduce the effectiveness of the University's instructional programs.

The Library at UIC, which serves the largest university in the Chicago area, holds over 1.5 million volumes including 15,000 periodicals. UIC's Library houses many special collections with historical significance to the Chicago area including: the archives of the Chicago Board of Trade; papers of the Chicago Urban League and Chicago Humane Society; the Lawrence J. Gutter collection of "Chicagoana;" and the personal libraries and papers of Jane Addams and Ellen Gates Starr, pioneer social workers. The Library of the Health Sciences, one of the largest such units in the nation, is the Regional Medical Library for 2,700 medical libraries in 10 states from North Dakota to Ohio.

As the third largest academic research library in the country, the UIUC Library serves a University which grants the third largest number of doctoral degrees in the nation. With more than 7 million volumes in its collections, it is a statewide resource which reaches out through an advanced computerized network of 30 academic libraries (LCS), the State Library, and 18 regional library system offices in the ILLINET statewide network serving every citizen in Illinois. In 1988 by lending 136,745

volumes through interlibrary loans, primarily through the statewide networks, the UIUC Library was second in lending among all members of the Association of Research Libraries (ARL). This volume of lending represented a 75% increase over the FY 1980 rate and demonstrates leadership which is nationally recognized by the nation's 100 largest research libraries which comprise ARL. In spite of its leadership in statewide resource sharing, from 1980 to 1988 the UIUC library dropped from ninth to twelfth among ARL libraries in binding and materials expenditures--a fundamental measure of the degree to which existing collection quality and size are maintained. It is significant that the third largest collection, lending the second highest number of titles in 1988, currently ranks only 12th nationally in binding and materials expenditures. Furthermore, among ARL libraries in 1987, the UIUC library ranked 17th in total library materials expenditures, 19th in expenditures for monographs, and 8th in expenditures for journals and serials.

One of the problems in securing adequate annual funding increases has been that, with few exceptions, the funds available for library materials have increased at a rate much more in line with the Consumer Price Index and other general price indexes. Such indexes do not reflect the actual cost of acquiring research materials from within the United States and throughout the world. Library materials increases regularly outstrip general price increases, sometimes by more than 200%. This has been harmful to the Libraries and their users. For example, during the period from 1980 to 1988, the average price of U.S. academic books increased by 178%. Equally serious in its impact upon the Library's budget is the price of U.S. technology and science serial titles--which have increased an average of 11.6% per year from 1979 to 1988.

Since many of the new and expanded programs recently added to the campus budgets are in technical fields which are highly dependent upon serials literature (e.g., supercomputing, genetics, biotechnology, artificial intelligence, etc.), the cost of providing and maintaining current materials has grown far more rapidly than have funds available for acquisitions in these areas. The University generated \$36.5 million in contract research funds in FY 1987 and \$39.5 million in FY 1988 in these and other science and technology fields. This has focused tremendous pressures on

the Libraries to support the rapidly expanding research activities of new faculty who require continued expansion of the Libraries' collections in these new and expanding fields which are currently the most expensive areas for library acquisitions.

Furthermore, the traumatic depreciation of the U.S. dollar since 1983 and differential pricing directed against North American libraries by foreign publishers for books and journals, many of which are the most expensive core scientific titles, has had a serious negative impact on the Libraries' materials budget. Based on samples of actual UIUC library unit costs for FY 1988, as compared to unit costs for FY 1985, Western European monographs increased by 103%. With 45% of the serials subscriptions allocated for foreign publications, it is equally disturbing that Faxon, the Libraries' primary serials vendor, tracked foreign subscription increases at 17% in FY 1987 and 18.7% in FY 1988. Prices of journals supplied by vendors in Germany and Japan in FY 1988 rose by 33% and 39% respectively.

In FY 1989, costs for both foreign and domestic serials were expected to rise by approximately 10-12%. Average prices of monographs, with no further fluctuation in the value of the dollar and no drastic increase in inflation rates, were not expected to exceed 8-10%. While it is hoped that price increases will stabilize at a level of approximately 10%, it should be reemphasized that adjustments for the dramatic decline of the dollar since FY 1985 and the spectacular increase in prices for serials and journals have not been covered by budget increases in the immediate previous years.

The Libraries' prolonged inability to keep pace with the dramatic, upward spiralling costs of library materials was further compounded by the consecutive zero funding increases in FY 1988 and FY 1989 brought about by the State's budget constraints. Special consideration is essential in FY 1991 to help reestablish basic purchasing power lost as a result of woefully inadequate budget increases provided by the State in these years.

The University of Illinois Libraries have already been forced into shifting their budgets away from a desirable even split between monographs and serials to a current allocation of 53% at UIC and 61% at UIUC for serials. Present expenditure patterns suggest that this disproportionately

high ratio will continue without additional funds. Correction of the imbalance without additional funds would require a continued reduction in monograph acquisitions and further extensive and intolerable cancellation of journals--a process which continues to damage the integrity of the Libraries' collections. This continuing cancellation trend, which led UIUC to a serials reduction of 2,157 titles worth \$166,790 during FY 1989, should not be allowed to continue.

The impact of severe serial cancellations over the past several years at UIUC raised protests from departments and individual faculty members, and caused the Campus Administration to order a halt to serials cancellations and to reallocate funds from other high priority areas to support library acquisitions. Although a number of key periodical titles have been reinstated, it is still necessary to fund periodicals at the expense of books. The Libraries' inability to reinstate more periodicals and to purchase monographs and new journals at a sufficient level is having a negative impact on other institutions and patrons throughout the State who have come to rely on University Libraries as the State resource where these unique and highly specialized materials should be made available.

An increase of 12% in the library materials budget is necessary in FY 1991. This increase will cover projected inflation and a modest recovery of the Libraries' purchasing power which lost so heavily to inflation and inadequate budget increases in FY 1988 and FY 1989. It must be emphasized that a 12% increase will not correct the deficiencies which have steadily accumulated over the past decade. Nor will it provide the resources required to respond to library needs related to new and rapidly expanding areas of academic interest: undergraduate studies, robotics, artificial intelligence and cognitive sciences, microelectronics, materials science, biomedical and pharmaceutical engineering, genetics, magnetic resonance imaging, etc. These and other needs are addressed in the programmatic section of the budget request.

Payroll Associated Costs

In recent years, the University of Illinois has faced increasing expenditure requirements related to payroll. The University is one of only a few State organizations outside of the Department of Central Management Services to carry an appropriation for Worker's Compensation. In the past three years, those costs have risen dramatically with little incremental funding available from the State. In addition the University is now required by Federal law to match new employees' contributions to Medicare, and State law requires the partial payment of accumulated sick leave to University employees upon termination of their employment. These requirements have placed additional stress on the University's already tight operating budget. Therefore, the following increments are requested for FY 1991.

Sick Leave Payout (\$2,247,600)

Effective January 1, 1984, full-time University employees began to accumulate compensable sick leave. New State legislation required that, upon termination, an employee be paid for one-half of a specified number of the sick leave days accumulated since that date. However, the State provided no incremental funds to cover the cost of this program until FY 1990. As a result, each campus has experienced an increasing demand on University resources to fund these payments, as well as an increased liability for future payments.

As noted, the State has provided limited incremental funding for FY 1990 following the recommendations of the Illinois Board of Higher Education. However, as displayed in the following table, the appropriation will provide only 30% of anticipated FY 1990 expenditures.

Appropriations and Expenditures for Sick Leave Payout
FY 1987 to FY 1990
(Dollars in Thousands)

	<u>Appropriation</u>	<u>Expenditures</u>
FY 1987	\$0.0	\$1,131.6
FY 1988	0.0	1,603.0
FY 1989	0.0	1,994.2
FY 1990	760.2	2,546.6

The need for increased funding is clear. Current projections are that FY 1991 expenditures for sick leave payout will be \$3,007,800. Therefore, an increase of \$2,247,600 is requested for FY 1991.

Worker's Compensation (\$423,800)

The University of Illinois, unlike any other university or State agency whose claims are handled through the Illinois Department of Central Management Services, receives a direct appropriation for payments of Worker's Compensation claims. The table which follows details the State appropriation to the University for each of the last ten years compared to actual expenditure claims. As is shown, from FY 1985 to FY 1989 claims held relatively constant and it was not necessary to request incremental appropriations for cost increases in those years. Note, however, that the University has completely expended its annual appropriations and experienced appropriation shortfalls in each of the last three years.

Appropriations and Expenditures for Worker's Compensation
FY 1979 to FY 1990
(Dollars in Thousands)

	<u>Appropriation</u>	<u>Expenditure Claims*</u>	<u>% Change in Expenditure Claims</u>
FY 1979	\$ 440.0	\$ 570.0	48.1%
FY 1980	840.0	840.0	47.4%
FY 1981	1,003.5	934.5	11.2%
FY 1982	1,105.1	1,144.1	22.4%
FY 1983	1,186.9	1,517.3	32.6%
FY 1984	1,493.1	1,390.0	(8.4)%
FY 1985	1,633.1	1,493.8	7.5%
FY 1986	1,633.1	1,527.9	2.3%
FY 1987	1,593.1	1,610.3	5.4%
FY 1988	1,560.9	1,609.0	0.0%
FY 1989	1,560.9	1,686.6 (est.)	4.8% (est.)
FY 1990	1,670.2	1,994.3 (est.)	18.2% (est.)

* For years in which expenditures have exceeded the appropriation, the balance of funds has come from the Department of Central Management Services or from other University funds.

For the last several years, the University has utilized the assistance of an actuarial firm to establish an appropriate level of funding for Worker's Compensation. Their methods for estimating projected claims and

resulting payments have proven to be very accurate and helped the University determine that incremental funds were not required between FY 1985 and FY 1988. Budget reductions in FY 1988 and limited incremental funding in FY 1990, however, now create a projected deficit of \$324,100 for Worker's Compensation in FY 1990. Clearly, an increment is therefore required for FY 1991.

Assuming a 5% increase in claims, payments for FY 1991 are projected to be \$2,094,000. An increment of \$423,800 (\$2,094,000 - \$1,670,200) is therefore requested.

Medicare Contributions (\$88,900)

Effective April 1, 1986, the Federal government required mandatory participation in the Medicare system by all newly hired State and local government employees not covered under the Social Security system. These employees and their employers are liable for equal portions of the FICA Medicare Tax of 1.45% of gross pay.

For FY 1991, the University is projecting expenditures at \$1,806,900 requiring a \$88,900 increment above the current appropriation of \$1,718,000.

OPERATION AND MAINTENANCE
(\$7,330,000)

This section of the FY 1991 Operating Budget Request is comprised of two separate Operation and Maintenance components: (1) operation and maintenance support for new areas, and (2) an ongoing Repair and Renovation Program within the operating budget of the University. The Operation and Maintenance Division at the Urbana-Champaign campus and the Physical Plant at the Chicago campus are responsible for operating and maintaining approximately 18.9 million square feet of nonresidential space which comprise the physical facilities of the University of Illinois. Over the past decade, these units have operated at significantly underfunded levels, restricting the provision of adequate repair, renovation, and remodeling activities. To protect the State's investment in University facilities and to assure adequate support for the University's academic programs, it is imperative that the University receive adequate operation and maintenance funding in FY 1991.

The major operation and maintenance function is to determine and meet the physical support requirements of existing, new, or significantly remodeled facilities. When new or remodeled facilities are brought into use, it is important to secure adequate maintenance funds, so that new space does not begin its useful life with a built-in maintenance deficiency. Given the major new construction programs underway at both University of Illinois campuses, maintenance costs for new space have been and will continue to be a major budget requirement. As the first component of the Operation and Maintenance request, funding requirements for new areas support in FY 1991 total approximately \$4.1 million.

Beyond the immediate need to support the operation of new facilities, the University faces a continuing problem of recovering from a substantial backlog of deferred maintenance projects and of responding to large scale repair and renovation requirements. If these elements of the overall operation and maintenance program are adequately supported, the useful life of a facility will be greatly extended.

An ongoing repair and renovation program funded in the operations budget and directed toward resolving more pronounced facility problems resulting from deferred maintenance, and for supporting programmatic

changes through the renovation of existing space is critically important for FY 1991. Creation of such a program within the operating budget will provide a source of regular support for such activities which are currently met on an irregular "if funds are available" basis. FY 1991 funding for this component is set at \$3.25 million. Requests of a similar amount are expected over the next three years.

Operation And Maintenance of New Areas
(\$4,080,000)

The estimate for FY 1991 operation and maintenance costs for new areas at the University of Illinois is \$4,080,000. A total of ten projects, comprising approximately 880,000 gross square feet (GSF) of new or significantly remodeled space, are submitted for either full or partial funding of the annual costs of operation and maintenance.

The costs associated with each new project are based upon factors pertaining to the specific types and uses of space in each project, the expected costs of the commodities and services which are necessary to support each operation and maintenance function and, more obviously, the expected date upon which occupancy of the structure will occur. Estimates are determined by staff from the Operation and Maintenance Divisions at each campus in conjunction with those professionals responsible for the design and construction of the project. In addition, staff from the departments which will utilize the new areas are consulted regarding specific operation and maintenance requirements of the space.

Each project included in this request is described in the following narrative and is presented in the cost summary shown on Table 9.

TABLE 9
FY 1991 REQUEST FOR OPERATION AND MAINTENANCE
SUPPORT FOR NEW AREAS

Project	GSF	Total Annual Cost	Total Unit Cost \$/GSF	Date of Occupancy	No. Months Funding	FY 1991 Amount

Urbana-Champaign						

Animal Sciences Lab Addition	52,000	\$545,040	\$10.48	February 1991	5	\$227,100
Animal Sciences Lab Remodeling	80,000	284,160	\$3.55	February 1991	5	118,400
Art Painting and Pottery Laboratory	6,000	91,200	\$15.20	April 1991	3	22,800
Astronomy	23,300	157,800	\$6.77	January 1990	6	78,900
Davenport Hall Remodeling	13,000	33,000	\$2.54	July 1990	12	33,000
Digital Computer Lab Addition	124,300	1,555,730	\$12.52	April 1990	9	1,166,800
Hazardous Materials Laboratory	44,000	471,200	\$10.71	January 1990	6	235,600
Plant and Animal Biotechnology Lab	162,000	1,989,430	\$12.28	December 1990	7	1,160,500
Subtotal						\$3,043,100
Chicago						

Engineering Research Facility	139,075	1,743,600	\$12.54	January 1991	6	871,800
Clinical Sciences Remodeling	240,000	990,600	\$4.13	May 1991	2	165,100
Subtotal						\$1,036,900
TOTAL UNIVERSITY						\$4,080,000

Urbana-Champaign Campus

Animal Sciences Lab Addition

The programmatic consolidation of the University of Illinois Departments of Animal Science and Dairy Science into a single Department of Animal Sciences will be enhanced by physically consolidating the functions of five separate facilities into the Animal Sciences Laboratory.

Included within the 52,000 GSF facility will be modern research laboratories as well as office and support facilities. Examples of the support facilities to be constructed in the addition are coldrooms, coldrooms with freezers, a tissue culture room, and various environmental chambers. Animal holding facilities will be located in the basement of the addition and instructional laboratories will be available for teaching animal physiology. Provision of operation and maintenance services for the addition will commence when occupancy occurs in February 1991. The FY 1991 request comprises five months of the annual operation and maintenance needs of the facility, a sum of \$227,100.

Animal Sciences Lab Remodeling

When the Animal Sciences Lab Addition was funded, additional funds were appropriated to remodel the existing facilities. The remodeling of this 80,000 GSF area will include major upgrades of laboratory facilities to meet the current critical demands for high quality space. When complete there will be additional mechanical systems to support these facilities. Provision of operation and maintenance services for this section will be required in February 1991. The FY 1991 request for five months of annual needs amounts to \$118,400.

Art Painting and Pottery Laboratory

In an effort to continue the facilities upgrade of the School of Art and Design, a new structure, the Art, Painting, and Pottery Laboratory is being constructed on Griffith Drive in Champaign. This location will permit easy access to students and faculty of the School and will accommodate 15 graduate painting students and 100 pottery students. The 6,000 GSF

facility will have natural and artificial light, good ventilation, and the studios, labs, and kilns will serve the sophisticated needs of the programs. Completion of the facility is scheduled for April 1991; therefore, the FY 1991 Operation and Maintenance Support for New Areas request represents three months of support, a cost of \$22,800.

Astronomy Building

The continued success of the National Center for Supercomputer Applications (NCSA) and the prospects for further growth in that activity have prompted the University to plan for the utilization of the entire Astronomy Building by NCSA within two years. Having been originally designed and constructed for the Advanced Computational Center with the intent to house large scale computing activities, the Astronomy Building is a logical site for NCSA hardware and support personnel.

A result of this plan is that the Astronomy Department must be relocated into a new facility to be constructed on the corner of Green and Gregory streets. Similar in the design and programmed use of the facilities constructed for Atmospheric Sciences and the Computer Services Office, there is an expectation of lowered construction costs and similar operation and maintenance expense. With a planned occupancy of January, 1990, the FY 1991 request for this 23,300 GSF structure completes funding of the annual support, a total of six months at a cost of \$78,900.

Davenport Hall Remodeling

The remodeling of Davenport Hall has provided upgraded space for the Schools of Chemical and Life Sciences. Included within the scope of the remodeling is the accommodation of a distinguished professor in Bio-Physics, the provision of eight laboratories and three office/laboratory complexes, and the installation of an elevator.

Reflecting a need for increased maintenance, utilities, and fire protection services, the operation and maintenance request in support of 13,000 GSF of remodeled space totals \$33,000. This sum represents twelve months of support for FY 1991.

Digital Computer Laboratory Addition

Providing 124,300 GSF of new space to the existing Digital Computer Laboratory, the addition will permit the consolidation of the Computer Science Department into one location. Interpersonal and data communications will be enhanced through this consolidation, with the common facility permitting the shared and full use of expensive computer equipment.

Reflecting a need for year-round cooling and ventilation and high electrical consumption to power mainframe computers, terminals and micro-computers, the operation and maintenance request for nine months of support during FY 1991 totals \$1,166,800 and represents the balance of the annual need. Construction of the addition has begun, with initial occupancy scheduled for April 1990.

Hazardous Materials Laboratory

The Hazardous Materials Laboratory is a 44,000 GSF building composed of roughly half office and half laboratory space. Maintained by the University of Illinois and occupied by the Illinois Department of Energy and Natural Resources, the Hazardous Materials Laboratory administers training and research programs on the management of hazardous waste materials.

Scheduled for completion in January 1990, the FY 1991 Operation and Maintenance Support for New Areas request is for six months of service at a cost of \$235,600, which represents the balance of the annual need.

Plant and Animal Biotechnology Laboratory

The University of Illinois has joined with the United States Department of Agriculture (USDA) in establishing a major new research facility for advanced plant and animal sciences research at the Urbana-Champaign campus. Research in the facility will concentrate on agricultural biotechnology research and will provide a major opportunity to improve the quality, utilization, and efficiency of food, fiber, fuel, chemical feedstocks, and other products.

Through genetic engineering it will be possible to produce new types of plants that are more resistant to stress and insects, have a higher resistance to pesticides and other chemicals, and are more adaptable to specific environments. Newly developed microbiological procedures will

enable scientists to produce unique new biological products for use in disease, insect, and weed control in crops and for improving feed efficiency and disease resistance in animals.

Scheduled for completion in December 1990, the FY 1991 Operation and Maintenance request for this 162,000 GSF facility is \$1,160,500 for seven months of operation.

Chicago Campus

Engineering Research Facility

The Engineering Research Facility is a new 139,075 GSF building at the University of Illinois at Chicago. The facility will strongly assist the College of Engineering in its goal to further its reputation as a leading source of research and educational advancements in the fields of robotics, biotechnology, microelectronics, and mineral processing.

Addressing a laboratory space deficiency of 90,000 net assignable square feet (NASF), the Engineering Research Facility will provide high quality, environment controlled space for advanced research and graduate student training. Air free of particulates, like that found within clean room space, is a critical laboratory resource requirement. Fume hoods and the associated exhaust fans and systems comprise a second laboratory resource that is in high demand. In addition, there is a need for chemical waste incineration facilities.

Classrooms, offices, robotics labs, clean room spaces, instrumented classrooms and workstation labs, and lecture and seminar rooms have all been provided for in the design of the facility. As with most technologically sophisticated buildings, the Engineering Research Facility has specialized operation and maintenance requirements to support the services and equipment provided within its research and instruction areas. Ventilation and electrical systems maintenance, janitorial services, and building security are of critical importance. As the facility is scheduled for occupancy in January 1991, the FY 1991 Operation and Maintenance request is for six months of support, a sum of \$871,800.

Clinical Sciences Remodeling

In FY 1989 over \$9 million was appropriated to complete the remodeling of the 240,000 GSF Clinical Sciences Building. Significant expansion of the educational and research initiatives of the College of Medicine will be afforded through the transformation of this former hospital-patient care facility into modern research laboratory facilities and associated classroom and office space.

Because of the significant number of occupants in this facility, the actual remodeling is being accomplished in phases. When a phase is completed the area will be occupied for use. A major component of the efforts will be the replacement and extension of the building's electrical and mechanical systems. Plumbing, piping, and electrical riser replacement and lateral distribution systems of electrical, steam, gas, and water utilities are being implemented.

Based on the phased nature of this project and the increased needs of operation and maintenance of new equipment, the initial request for O&M funds was based on two months of operation in FY 1990. To keep pace with the continued remodeling an additional \$165,000, representing two months of funds, is being requested for FY 1991 for this phase. The eight month balance will follow in the two years hence.

Repair and Renovation Program
(\$3,250,000)

Operation and Maintenance Deficiency

Fundamental to the University's missions of teaching, research, and public service is the absolute requirement to provide space in which to perform these activities. Faculty, staff, and students need adequately maintained and efficiently operated offices and classrooms in which to educate and learn. It is the Operation and Maintenance Division at the Urbana-Champaign campus and the Physical Plant at the Chicago campus which serve the essential function of developing and maintaining facilities suitable to support the full range of academic and administrative activities which occur on the campuses. Classrooms, laboratories, animal rooms, lecture halls, offices, and seminar rooms all require the technical and skilled operation and maintenance support offered by these units. Utilities, and such maintenance requirements as building and grounds maintenance and general upkeep, as well as security, transportation, mail and janitorial services must be provided to keep the University's physical plant in operation.

However, a history of underfunded operation and maintenance functions exacerbated by periods of high economic inflation have weakened the operation of the physical plant. Annual funding has been insufficient to provide operation and maintenance services at appropriate levels for nearly two decades.

An inevitable response to continual inadequate funding is the determination of what maintenance is imperative and what may be deferred. Minor inconveniences which result from deferred maintenance receive low priority in the practice of operation and maintenance triage. Major concerns such as broken pipes, leaky roofs, and overloaded electrical circuits consume the available resources; adequate routine building repair service is postponed.

In an effort to begin to control the ever-increasing problem of deferred maintenance, the University is requesting funds to arrest the growth of deferred maintenance and provide relief before many of these minor problems worsen. The proposed maintenance effort addresses some

specific items associated with the campus deferred maintenance problem, such as: painting and plaster repair, carpet repair, window and sash repair, interior lighting, and so on.

Deferred maintenance has been a compounding problem for the University since FY 1971, when annual funds to maintain the campuses fell below sufficient levels. The current level of inadequacy of operation and maintenance support is determined through a comparison of recent funding data with a projected standard obtained by applying prevailing inflation rates and productivity adjustments to the FY 1971 base, thus yielding a deferred maintenance deficiency for FY 1988 of \$3.58 million. Inflation of this deficiency to FY 1991 dollars results in an estimated maintenance deficiency of \$4.15 million. Table 10 illustrates these calculations.

Operating Budget Repair and Renovation Program

Funding for repair and renovation fills a critical void between capital budget appropriations for major remodeling needs and operating budget appropriations for the regular maintenance and day-to-day operation of existing buildings.

Repair and renovation needs fall into two separate but related categories:

1. Programmatic Renewal Projects

The capacity and configuration of academic facilities must be adequate to support a changing mix of academic programs as well as constantly changing emphases within programs. New knowledge and technology is evolving at an accelerating pace, particularly in the laboratory sciences and engineering. To remain current with instructional and research activities, let alone to work at the forefront of knowledge development, often requires modifications or upgrading of facilities and of support systems. The use of sophisticated equipment for teaching and research, frequently requiring specialized environmental controls, also demands renovation of the space which houses the equipment.

2. Deferred Maintenance Projects

The structural integrity of existing facilities and of the campus-wide utilities systems which support them must be assured. Routine maintenance too long deferred eventually requires the funding of renovation projects to replace whole building components such as roofs, elevators, plumbing, masonry, and so on. The cumulative effects of more than a decade of operating budget maintenance deficiencies have produced a monumental backlog of deferred maintenance projects.

TABLE 10
FY 1991 PROJECTED OPERATION & MAINTENANCE DEFICIENCY
FOR DEFERRED MAINTENANCE ONLY [a]

	Chicago	Urbana-Champaign	Total
1. FY 1988 Deficiency [b]	\$1,378,155	\$2,205,195	\$3,583,350
2. Add: Impact of Inflation on Deficiency (FY 1989) 4.9%	67,530	108,055	175,585
3. Less: FY 1989 Incremental Dollars	0	0	0
4. FY 1989 Projected Base Deficiency	\$1,445,685	\$2,313,250	\$3,758,935
5. Add: Impact of Inflation on Deficiency (FY 1990) 5.1%	73,730	117,975	191,705
6. Less: FY 1990 Incremental Dollars	0	0	0
7. FY 1990 Projected Base Deficiency	\$1,519,415	\$2,431,225	\$3,950,640
8. Add: Impact of Inflation on Deficiency (FY 1991) 5.0%	75,970	121,560	197,530
9. FY 1991 Projected Base Deficiency	\$1,595,385	\$2,552,785	\$4,148,170
% Distribution by Campus	38.5%	61.5%	100.0%

[a] Preventive maintenance consists of janitorial services, building maintenance services and grounds maintenance activities.

[b] The UIC deficiency does not include an amount for janitorial services at the hospital because this service is financed by the hospital.

The two categories of repair and renovation projects described above represent ongoing needs which will require approximately \$10 million annually to adequately address. However, the University currently has no recurring source to provide these funds.

In past years, the University of Illinois has been able to fill the critical void for repair and renovation with funding from two separate programs approved and supported by the IBHE. From FY 1976 to FY 1985, repair and renovation needs were addressed by the Space Realignment, Renewal and Replacement (SR³) program. This was a formula-based program which calculated the cost to repair and renovate a certain percentage of the University's physical plant; for FY 1990, the SR³ formula would have generated over \$17 million for the University of Illinois.

Proposed here for FY 1991 is a request for \$3.25 million, which represents the initial phase of a program to fund deferred maintenance and repair and renovation requirements. In the absence of any other State-funded program, the critical need for a regular, recurring source of funds to address repair and renovation needs will be achieved through the implementation of this request. The University's overall goal is to achieve a total of \$12 million in this category over the next four years.

PROGRAMMATIC REQUESTS

PROGRAMMATIC REQUESTS

For much of the 1980's, significant physical and programmatic growth took place on each of the University of Illinois' campuses. This growth was supported by new State funds, enriched by federal and private sources of funding, and augmented by the realignment of existing institutional resources. These successes created a base from which further efforts to expand and improve instructional, research, and public service programs can be accomplished.

The University has established a momentum in program development that, if sustained, can lead to new initiatives that will not only improve the educational experiences of our students and the environment within which new scientific, technological, intellectual and cultural advances can be made, but will also benefit the short- and long-term economic development of Illinois and the nation.

This momentum was interrupted, however, by the outcome of the FY 1988 and FY 1989 appropriations processes. No new programmatic funds were appropriated by the legislature to the University in FY 1988, and FY 1989 brought increases only in the waning days of the veto session. In addition, total FY 1988 General Revenue Funds and Agriculture Premium funding to the University was reduced by the Governor to 4% below FY 1987 levels. Current indications are that the momentum of the mid-1980's can be approached again due to a renewed infusion of programmatic funding in FY 1990, facilitated by recent tax increase legislation.

Most of the physical and programmatic growth of the 1980's served as means to ends which have yet to be fully realized. Given the limited incremental resources available to distribute among all agencies, few of the initiatives proposed by the University have been implemented as initially planned. Yet, what has been initiated has reaped significant tangible and intangible returns on the investment made.

The tangible returns are easy to find. They range from the formation of the two supercomputer centers on the Urbana-Champaign campus that were made possible through the leveraging of campus and new State funds to match grants from the Federal government, to the establishment of the Beckman Institute in which the State matched a major private gift. At the Chicago

campus advances in public health, gerontology, and molecular biology have spawned significant growth in external support.

The intangible returns are as easy to find, but they are often not as quantifiable. Examples include the increased number of students who are able to pursue some of the finest engineering education programs in the nation, made possible through Engineering Revitalization efforts; and the increased numbers of minority students throughout the State who are better prepared for the academic rigors of a higher education than they would have been had they not been able to participate in the University's Principal's Scholars and Saturday College early outreach programs. The funds earmarked for these and other such programmatic improvements can be easily quantified, but not their residual benefits to the State. In fact, long after these dollars have cycled through the economy, the residual benefits of these investments will profit the State in the form of enabled human capital.

Throughout the 1980's, attempts were made to weigh the changing situational, economic, and intellectual contexts at issue within the University, the State, and the nation in developing programmatic requests. Though the individual initiatives within the major programmatic themes that serve as the focal points for new and expanded initiatives at the University of Illinois have changed over the past decade, the major themes themselves have remained fairly stable.

This is again the case for FY 1991, as the University of Illinois is proposing new and expanded program initiatives under the following main themes:

- I. Promoting Instructional Excellence
- II. Scientific and Technological Advances
- III. Minority Access
- IV. Engineering Revitalization
- V. Library Improvements
- VI. Academic and Institutional Support Services

Initiatives outlined within the Promoting Instructional Excellence theme address cooperative efforts to improve the ability of elementary and secondary schools to provide quality education, the enhancement of general undergraduate educational curricula, meeting specific areas of student enrollment demand, expanding existing curricular options, and augmenting current instructional support activities.

Scientific and technological advances initiatives are described under three subheadings: those having to do with pioneering advances in basic research, others having to do with the application of those pioneering advances, and the technology transfer efforts of the University in making these advances available to those most in need of them.

Under the minority access theme the "pipeline problem" which faces minority students and higher education in their joint quest to increase both the aggregate numbers and success rates of racial and ethnic minorities in their educational endeavors is addressed from an early outreach and a retention perspective.

The fourth main theme is a request to continue the efforts initiated in FY 1984 to revitalize engineering curricula at both campuses. Significant progress has been made toward many of the initial goals set by the campuses, but there is still ground to be covered in seeing them to fruition.

With respect to library improvements, arguments are presented for increasing funding in order to address the growing inability of the University of Illinois Libraries to keep pace with the rising costs of serial and monographic materials and to permit the Libraries to stay abreast of programmatic growth into new areas of inquiry. Both of these phenomena have been prevalent throughout the 1980's causing serious staffing and collections problems.

The final theme addresses a most critical issue to the University, that of providing adequate support services to the institution's academic programs. Initiatives are outlined that will allow for a more responsive, healthful, safe, and secure environment in which the University's educational enterprise may unfold.

The amounts requested by each campus, by theme, are listed in Table 11.

TABLE 11
FY 1991 PROGRAM BUDGET REQUEST
(Dollars in Thousands)

	Chicago	Urbana-Champaign	Central Administration	Total University
I. Promoting Instructional Excellence	1,110.0	1,715.0		2,825.0
II. Scientific and Technological Advances	615.0	435.0	500.0	1,550.0
III. Minority Access	685.0	700.0		1,385.0
IV. Engineering Revitalization	300.0	600.0		900.0
V. Library Improvements	100.0	300.0		400.0
VI. Academic and Institutional Support Services	440.0			440.0
	<u>\$3,250.0</u>	<u>\$3,750.0</u>	<u>\$500.0</u>	<u>\$7,500.0</u>

EXPANDED/IMPROVED PROGRAMS
I. PROMOTING INSTRUCTIONAL EXCELLENCE

PROMOTING INSTRUCTIONAL EXCELLENCE
(\$2,825,000)

Throughout the past decade numerous calls have been made for reform and upgrading of the quality of education being offered in the United States. These calls have ranged from those focusing on preschool, primary, elementary, and secondary education to those focusing on the general quality of the undergraduate educational experience to the timeliness of Ph.D. completion. Regardless of the level of their focus, they have been consistent in their criticism of the educational enterprise as being too "soft," too "narrow," or too "parochial."

In particular, the conception of higher education as simply a technical training ground prior to the beginning of a career has proven to be far too narrow a mission within a society where new knowledge is created at an ever increasing pace. The initiatives outlined below seek a balance in the swing of the curricular pendulum between, on the one hand, the notion of an elitist, classical education for a limited few and, on the other, that of circumscribed, particularized, technical training for entrance into the work force.

The initiatives proposed by both the Chicago and Urbana-Champaign campuses to promote instructional excellence are intended to meet a variety of instructional needs, ranging from assisting elementary and secondary schools in providing quality educational opportunities for their full range of students to initiatives that will strengthen the quality of education offered throughout the University of Illinois. They seek as well to meet existing student demand for undergraduate, graduate, and professional programs; to enrich curricular offerings through development and expansion of academic programs; and, at UIUC, to begin implementation of the revised undergraduate general education requirements.

These efforts to promote instructional excellence are also integral to the continuing economic development of the State of Illinois. With changes in society taking place at an increasingly rapid pace, it is important that the citizenry of the State be prepared not only to carry out the working demands of the current economy, but that they also be prepared to adapt and develop as the world and economy around them continue to change.

Promoting instructional excellence at the University of Illinois is a significant means by which this end can be realized. The vast majority of the University's 60,000 students are Illinois residents. Upon graduating, a significant proportion of these students remain in Illinois not only to begin, but to conduct the entirety of their careers. Providing these students with quality undergraduate, graduate, professional, and continuing education programs that not only prepare them in narrow technical competencies, but that also stress broader, more transcendent skills will help to ensure the State's ability to meet the developing challenges of the future.

Promoting Instructional Excellence at the Elementary and Secondary Levels

Many students reach college unprepared not only for the rigors of their chosen disciplinary major, but also for the general tasks associated with being a university student. Remedial programs are one option for addressing this problem, but that methodology treats the symptoms rather than developing a cure for the underlying, central malady. The University of Illinois at Chicago has several programs dedicated to the improvement of educational opportunities for children, with particular attention to the problems and dilemmas associated with elementary and secondary schools in the Chicago metropolitan area.

A related effort proposed by the college of Health, Physical Education, and Recreation would expand its current teacher education program in physical education to include a specialization targeted toward youth at risk in the urban setting. Urban youth in Chicago are generally educationally disadvantaged and at greater risk than non-urban youth of becoming involved in homicide, suicide, teen pregnancy, school drop-out, and drug use. The proposed program would provide teachers with concepts and skills that focus on helping urban youth cope with these emotional and social problems. Recruitment of qualified minority students as pre-service teachers is essential to the program's effectiveness. By capitalizing on the often attractive, highly emotional and interactive nature of physical education, this program emphasizes awareness, empowerment and self-reflection, as well as the transfer of such skills outside of physical education to other areas of decision-making. This and similar programs enhance UIC's research and service objectives within the urban mission, emphasize the

recruitment of minority students to the undergraduate program, and support the school reform movement underway in the City of Chicago.

At the UIUC campus, the early stages of initiatives to better prepare the next generations of elementary and secondary teachers are now underway. In part, these initiatives are a response to new teacher certification requirements established in Illinois. More fundamentally, they provide substantially better curricular and subject matter breadth to those in training to become teachers. Curricular enhancements are planned for non-major offerings in disciplines such as mathematics, English, history, chemistry, biology, and the like. An emphasis on writing for both enhanced content and rhetorical style will permeate these offerings, as will attempts to provide broadly conceived and intellectually rigorous exposure that does not presume that these subjects are being studied as prerequisites for more advanced study.

Promoting Instructional Excellence through the Enhancement of Basic and Fundamental Skills

First and foremost among the needs for improving the quality of educational opportunities at the university level are initiatives that enhance and improve general undergraduate curricula. The critical importance of basic, fundamental skills that transcend disciplinary expertise--thinking and problem solving; clear, cogent, and concise writing; and critical reading and analysis--are integral to the undergraduate educational experience. These have always been, and are now increasingly understood to be, vital elements in the education of those we expect to enter the work force and help to stimulate our State and national economies. They are skills and practices to be nurtured along with the development of technical/professional expertise in a particular discipline. The objective for both campuses is to reinvigorate the undergraduate educational experience to place it on a par with the quality of graduate and professional educational programs offered at the University of Illinois.

Efforts to date have shown the effectiveness of both computer assisted writing laboratories and "writing across the curriculum" programs. Yet more needs to be done to fully integrate these types of programs throughout the undergraduate curriculum. Continued development of interactive and cross-disciplinary efforts to enhance the abilities of students to

communicate both effectively and efficiently in all disciplinary specialties is imperative. Both campuses are developing programs that will incorporate expanded writing instruction into the entirety of the curricula. Faculty with special expertise in teaching writing and communication skills are working in conjunction with faculty from the cognate disciplines to develop the most expeditious means of enhancing student writing within various discipline clusters.

Improvement of the delivery of instruction at the earliest undergraduate levels is of equal importance. Both campuses propose the continued development of new curricular options which stress the development of ideas and their synthesis through reading, discussion, and writing, rather than the prevalent information transmission and regurgitation mode of instruction which most freshmen and sophomores face in meeting their general educational requirements. These initiatives, which will promulgate increased faculty-student interactions, will include seminar courses for freshmen and sophomores taught by tenure stream faculty and the development of more integrative core curricula within various colleges. In addition, they will increasingly utilize laboratory instructional methodologies in courses that have not traditionally used this medium.

Additional faculty are sought for core academic departments which have significant service components as well as sizable major populations. These departments include Biological Sciences, Chemistry, Physics, Mathematics, Statistics, Computer Science, Political Science, Psychology, and Sociology. Through the addition of these instructional staff, the campuses will be able to reduce presently overloaded lecture and laboratory sections to more reasonable class sizes, enabling more personalized and interactive instruction.

Changing market demographics necessitate that the University aggressively recruit faculty in these disciplines now, before the demand for outstanding new Ph.D.'s becomes too acute. During the 1990's a large majority of the faculty hired to serve the swelling ranks of academe following World War II will be reaching retirement age, causing a large increase in the demand for new talent nationwide. Corresponding to this increased demand is the fact that graduate enrollments in these disciplines--with individuals preparing themselves specifically for academic careers--are on the decline. Thus, when demand reaches its peak in the

mid 1990's, supply will have ebbed to a point where the competition for any new Ph.D. will be intense.

Promoting Instructional Excellence Through Meeting Student Demand for Present Curricular Offerings

A third set of important needs addressed by the initiatives from each campus are responses to specific areas of student demand. These include not only demand for selected undergraduate curricula, but also for graduate, professional and continuing education programs offered by the University.

Areas where there is particularly heavy student demand presently not being met include business; public policy; health professions; and the chemical, biological, behavioral, and neurological sciences. There are acute needs to expand the availability of offerings not only to those individuals who wish to major in these disciplines, but also to individuals majoring in other areas who would benefit from exposure to these high demand areas of study.

The demand for these curricula stem from a variety of forces including the changing market demand for university graduates with broader skill backgrounds, the need to provide existing programs at different times of the day to accommodate students forced to finance their education by working full- or part-time while attending the University, and the demand for offering programs at remote sites to accommodate both individual student and regional educational concerns.

Specifically, there are heavy demands, at both campuses, for business-related curricula, both by students wishing to major in this area, and from students with other majors who recognize the need to have an understanding of business practices and theory to complement their own discipline concentrations. In order for practicing health professionals to enhance their present delivery of service to the citizens of Illinois, the University must provide more accessible continuing professional educational opportunities and programs, some leading to advanced degrees. Finally, the broad spectrum of chemical, biological, behavioral, and neurological sciences is experiencing a resurgence that present curricular offerings are inadequate to satisfy.

Promoting Instructional Excellence Through Enhancements to Present Curricular Offerings

During the middle portion of the 1980's, curricular enhancements were focused primarily on engineering and scientific fields. There is a distinct need to balance these past efforts by implementing similar curricular enhancements in the social sciences, arts, and humanities.

Curricular developments that make use of new instructional technologies to promote interdisciplinary instructional efforts, and to augment present curricular offerings to include a broader understanding of particular disciplines, are needed to provide more integrative and contemporary educational opportunities to students. Special efforts are underway at both campuses to provide this interdisciplinary and integrative type of education to Illinois' top high school graduates through honors programs. These campus-wide programs, that complement various discipline-based honors programs, are striving to provide close, interactive, broadly-based, intellectually challenging, and individually stimulating educational opportunities. Too many of Illinois' best high school graduates now leave the State to find these educational experiences at expensive private schools.

Changing economic conditions--globally and here in Illinois--are causing increased curricular attention in new areas within existing disciplines. Such phenomena as the explosion of the international business community, the growth and attention being paid to commodities futures, and the need for better marketing and distribution of Illinois raw materials and finished products are leading to curricular developments at the undergraduate, graduate, and professional levels, that attempt to better prepare students and practicing professionals to cope with and exploit these phenomena in the interests of promoting global economic development. The latter two phenomena are of particular concern to the agricultural community of Illinois.

Efforts need to be increased to further integrate the use of microcomputers into non-science and non-engineering curricula. Students in the social sciences, arts, and humanities greatly benefit from the availability of microcomputers for use as analytical, design, and problem solving tools in their studies. Not only does this necessitate the expansion of present microcomputer laboratory facilities, it also necessitates the development

of better orientation and instructional support services for faculty who wish to integrate the use of microcomputers into their courses.

Increasingly, interdisciplinary research and instruction, which by definition crosses the standard boundaries of single discipline-based instruction, has brought about exciting new insights into both old and new areas of inquiry. In the most recent past, "interdisciplinary" has typically meant a melding of various physical and natural sciences, but the fruits of new partnerships can be just as bountiful within the arts, humanities, and social sciences.

Efforts in the humanities and social sciences attempting to bring a more expansive, global perspective to today's most pressing scientific, political, and social problems are already underway. However, there is a need to expand these efforts and provide support to faculty who are working to develop these multi-faceted approaches to addressing issues and problems of historical, current, and future concern. These cross-pollination efforts are spawning new courses that intertwine a variety of discipline-bound perspectives on issues and provide students with opportunities to expand their knowledge and develop skills and problem solving strategies in ways that traditional, single-discipline approaches to instruction are unable to provide. As a result, the University's graduates will be that much better prepared to face and take an active role in not only how these issues will interact with their chosen careers, but also in their lives as citizens of the State and nation.

Promoting Instructional Excellence Through Implementation of Revised Undergraduate General Education Requirements

Since 1985, the UIUC Senate Committee on Educational Policy has been discussing recommendations for the enhancement of undergraduate education, attending particularly to the quality of undergraduate instruction, the quality of undergraduate advising, and the nature of the campus General Education requirements for baccalaureate degrees. In October 1988, the Educational Policy Committee presented the Senate with a "Proposal for Revision of Undergraduate General Education Requirements" which was adopted by the Senate after extensive revisions. The implementation of the revised proposal should constitute a substantial improvement over current campus General Education requirements, approved by the Senate in 1962.

The Senate determined that baccalaureate degree programs at UIUC should be characterized by a common, campus-wide commitment to General Education. That commitment is guided by the concepts reflected in the following paragraphs.

Undergraduate education at the University of Illinois at Urbana-Champaign includes General Education as an essential complement to major fields of study. General Education uses the theories, concepts, and methods of the disciplines to broaden students' understanding and appreciation of human thought and achievement--and to provide a richer context within which to understand their own specialized fields. The campus General Education component is intended to help students understand and appreciate diverse areas of scholarship, to develop and enhance a wide range of intellectual abilities, and to strengthen students' abilities to develop and communicate ideas effectively and responsibly.

Courses satisfying the General Education requirements should engage students in modes of inquiry and analysis appropriate to the respective disciplines, should be intellectually challenging, and should have been approved by a faculty-student committee charged with overseeing the quality of the General Education component of undergraduate programs. While some degree programs may require additional General Education coursework, all undergraduates will be required to fulfill the minimum set of eight requirements in the following areas: English composition, quantitative reasoning, foreign languages, natural sciences and technology, humanities and the arts, social and behavioral sciences, cultural studies, and perspectives on women and gender.

To ensure, as much as possible, that General Education courses will be valuable intellectual experiences, a campus-wide General Education Board has been established by the UIUC Senate. This Board will consist of faculty members designated by the deans of the colleges and will begin to function in the fall of 1989. After providing approved category descriptions and course criteria, the Board will solicit from all academic departments brief descriptions of courses proposed as General Education offerings. The Board will review course proposals, approve those that meet published criteria, and solicit revisions and even new course development where the need exists.

Because efforts to increase educational standards affect students from different educational backgrounds differently, the Board will take specific steps to help identify and address the needs of various groups of students who are at risk of being adversely affected by the new General Education requirements. Students from small rural schools with limited curricula, Education Opportunity Program students, and communications-impaired students are among those who might require special assistance, not to exempt them from new requirements, but to help them meet these requirements effectively. The Board will regularly consult representatives of such student populations for guidance in these matters.

It is clear that the proposed upgrade and improvement of General Education will require substantial additional resources. It is expected that the implementation of the proposed changes will cost several million dollars. Funds requested in FY 1991 will permit initial implementation of the requirements.

Budget Summary of Initiatives at Chicago

32.5 FTE Academic Staff	\$1,016,500
1.5 FTE Nonacademic Staff	25,000
Expenses	25,500
Equipment	<u>43,000</u>
TOTAL	\$1,110,000

Budget Summary of Initiatives at Urbana-Champaign

28.5 FTE Academic Staff	\$1,528,000
4 FTE Nonacademic Staff	68,000
Expenses	109,000
Equipment	<u>10,000</u>
TOTAL	\$1,715,000

EXPANDED/IMPROVED PROGRAMS
II. SCIENTIFIC AND TECHNOLOGICAL ADVANCES

SCIENTIFIC AND TECHNOLOGICAL ADVANCES
(\$1,550,000)

Revolutionary changes are taking place in science and technology that affect not only the practice of science, commerce and industry today, but when looked back upon 30 years hence, will be seen as pivotal events in the history of scientific, commercial, and industrial development. For more than 100 years, the University of Illinois has pioneered scientific and technological advances that have directly affected the way in which society functions. This pioneering activity continues today.

Recent advances in biotechnology, artificial intelligence, cognitive science, robotics, magnetic resonance imaging, supercomputing, chemistry, biochemistry, and chemical engineering not only continue the University's tradition of being on the cutting edge of science and technology, but they also impact the economic development of the State and the nation. Additionally, the "critical mass" of research and researchers in these fields is leading to curricular enhancements for the training of the next generation of scholars who will further explore what is yet unknown.

The University's efforts in applying pioneering advances in scientific and technological research are also important to the development of new and enhanced economic markets. Genetic research on livestock, and efforts in value-added agriculture, are making use of the latest advances in biotechnology and bioprocessing and employing them in efforts to enhance production and to find new and more ecologically suitable end products from raw materials found naturally or produced in abundance throughout Illinois.

Advances being made in science and technology at the University of Illinois will impact not only the State's and the nation's economy in the long term, but are already producing tangible benefits. The initiatives outlined on the following pages are in some cases enhancements and expansions of ongoing projects that have already paid rich dividends on the State's initial investment, while others are new efforts that promise to open further doors of intellectual and instructional advancement, and ultimately economic development.

Pioneering Advances in Science and Technology

Many efforts presently underway at both campuses of the University of Illinois are at the forefront of science and technology. At UIUC, programs have begun in the Life Sciences with teaching and research emphasis in biomolecular architecture, developmental biology, cell biology, molecular biology, and molecular genetics. The basic biological sciences comprise the "power plant" which drives new developments in life sciences research including the identification of abnormal protein deposits in the brain cells of Alzheimer's patients, new plant varieties containing cloned genes for herbicide resistance, and the use of bovine growth hormone to increase crop yield and human growth hormone to treat pituitary dwarfs. Everyone applauds and overtly recognizes the importance, as well as the economical and societal benefits which stem from these technologies. However, additional funds are necessary to strengthen and develop the type of teaching and research effort required in the biomolecular sciences.

Interdisciplinary efforts are concentrated around basic and fundamental research in the biological and life sciences, chemical sciences, and in advanced computational research, with particular emphasis on the development of the next generation of advanced computational devices and in the instruction and training of users of these facilities at remote sites. Because of the interdisciplinary approach to investigation in these endeavors, bringing together researchers from a wide variety of cognate, complementary, and supplementary disciplines, most of these pioneering research efforts are coordinated and conducted through research centers.

At UIC, faculty with expertise in microbiology, molecular biology, biochemistry, genetics, biology, chemistry, medicine, dentistry, anatomy, physiology, dermatology, histology, oncology, pathology, and pediatrics have been drawn together in research efforts which are generally called biotechnology. Their efforts to date, focusing in large part on recombinant DNA technology, have led to advances in the understanding and treatment of such diseases as hemophilia, sickle cell anemia, arthritis, cancer, and periodontal disease. Present expertise needs to be augmented with additional faculty, research, and technical staff as well as additional support and administrative staff to manage, administer, and support the activities of the centers.

Magnetic resonance and its applications have come to play a central role in a number of areas within the life sciences and the field of medicine. The interdisciplinary nature of this field, the complex and expensive equipment required, and the special expertise needed to develop new equipment and techniques and to guide research projects have stimulated the development of new integrated programs in many institutions. The program being developed at the University of Illinois covers a broad spectrum: the basic theory of image formation; the development of mathematical algorithms and instrumentation; novel applications in the fields of plant, animal and human physiology, pharmacology, and biophysics; as well as the development of new areas of usefulness in medicine.

Crucial to the interdisciplinary research efforts of both campuses are facilities adequate to house the researchers and their laboratories in relative proximity to one another in order to foster the easy interchange of ideas and expertise. An archtype facility, the recently opened Beckman Institute for Advanced Science and Technology, serves as the physical focal point of the University's interdisciplinary efforts to pioneer advances in science and technology.

The adequacy of physical facilities to house and support these evolving multi-disciplinary programs in science and technology continues to be a prime concern for the University. Remodeling is continuing at the Agricultural Bioprocessing Facility (formerly the Dairy Manufacturers Building) to provide space for value-added agriculture research. The Digital Computer Laboratory addition is nearing completion, the federally financed USDA Plant and Animal Biotechnology Laboratory is under construction, and planning funds have been provided in FY 1990 for a Chemical and Life Sciences Building.

At Chicago, modest remodeling of space in the old hospital has made some inroads into the need for centralized facilities for the centers pursuing biotechnological research. A major remodeling project was appropriated in FY 1989 for this facility. However, there is still a great need for space for state-of-the-art facilities--such as advanced wet labs, computer labs, and clean rooms--that cannot be met by remodeling existing space. To meet this need, planning funds for a Molecular Biology Research Lab have been appropriated for FY 1990. Additionally, construction is

underway on the Engineering Research Facility that will provide much needed space for the College of Engineering's expanding research efforts.

Applications of Pioneering Advances in Science and Technology

The potential applications of the advances in science and technology at the University of Illinois and elsewhere throughout the world are virtually endless. However, the University of Illinois, by virtue of its strength in a number of disciplines which are natural complements to the research taking place in biotechnology, artificial intelligence/cognitive science, magnetic resonance imaging, and supercomputing, is particularly well situated to apply these advances in ways that will have a significant impact on our society and our economy.

For instance, scientific and technological advances in a number of these areas have the potential to have an enormous impact on research that responds to the aging of our society. The U.S. Bureau of the Census has reported that the nation's median age rose from 27.9 years in 1971 to 31.2 years in 1984. Scientific and medical advancements continue to increase expected average life, so that by the year 2030 there will be 65 million "baby-boomers" alive. While today one in every eight Americans is considered "elderly," then it will be one in every five. At UIIC, a group of faculty from a number of disciplines is working to identify ways the elderly can remain healthy, independent, and productive for as long as possible.

By building on results of the research efforts described above and conducting further research of an interdisciplinary nature, these faculty are endeavoring to provide an intellectual milieu in which to facilitate important gerontological breakthroughs and to enhance the quality of clinical care and services to the community. The development of a model long-term health care program for the elderly and empirical research into the impact of care-management services upon program utilization, the influence of care-giver support groups on the well-being of the elderly, and the effects of Alzheimer's disease on family members are a few examples of the types of aging initiatives which need to be expanded.

Further applications and resultant research at the University of Illinois are also taking place in applied genetic research on various forms of livestock, the remote access and application of supercomputing facilities,

and the development of efforts to deal with toxicologic threats to the maintenance of our environment.

Technology Transfer of Pioneering Advances in Science and Technology

The initiatives outlined above seek to advance science and technology through both basic and applied research. Implicit in these endeavors are related efforts to provide curricular enhancements and new instructional opportunities for undergraduate and graduate students. These instructional activities develop as a natural outgrowth of the institution's research efforts. They are the first line of technology transfer the University of Illinois undertakes: the transfer of technology as embodied by our graduates who will serve the State and the nation as both a well-qualified work force and as the next generation of scholars and researchers necessary to sustain the revitalization of the economy.

The University seeks, however, through both centrally and decentrally administered programs that draw on the expertise of faculty at both campuses, to provide the citizens, government, businesses, and industries of the State with two other critical forms of technology transfer:

1. Continuing education and professional development activities, that keep the skills of those presently in the work force up-to-date and on the cutting edge; and
2. Direct technical consultation from University researchers to industry, as well as joint industry/University research ventures, that have the potential to create new products and services that can ultimately lead to further expansion of the State's economy.

These initiatives are designed to meet service and outreach needs on a State-wide basis, with special emphasis on the western Chicago suburbs. The primary focus of the plan is to extend professional educational opportunities to a region that has experienced rapid demographic, commercial, and industrial growth. Ancillary to these programs are plans to provide important technology transfer in the form of policy analysis to State and Federal government officials and legislators, as well as for State-wide dissemination of this research to policymakers, professionals, and the public.

The University will focus on four major areas of activity in which it has special expertise to assist in meeting these needs: science and technology; engineering; business and related executive training; and

health care. Planning funds for a multi-university center in DuPage County, to be managed by the University of Illinois, have been appropriated for FY 1990.

Budget Summary of Initiatives at Chicago

12 FTE Academic Staff	\$399,500
2.5 FTE Nonacademic Staff	56,000
Expenses	139,500
Equipment	<u>20,000</u>
TOTAL	\$615,000

Budget Summary of Initiatives at Urbana-Champaign

10 FTE Academic Staff	\$328,000
1 FTE Nonacademic Staff	18,000
Expenses	<u>89,000</u>
TOTAL	\$435,000

Budget Summary of Initiatives at Central Administration

4 FTE Academic Staff	\$175,000
1 FTE Nonacademic Staff	25,000
Expenses	275,000
Equipment	<u>25,000</u>
TOTAL	\$500,000

EXPANDED/IMPROVED PROGRAMS
III. MINORITY ACCESS

MINORITY ACCESS
(\$1,385,000)

Population demographics indicate that a decline in the number of high school graduates will continue until the late 1990's. However, because the drop in birth rates after the "baby boom" was not the same for all racial and ethnic groups, an increasingly larger proportion of each year's traditional pool of college applicants will be minorities, particularly Blacks and Hispanics.

Higher education is already faced with a "pipeline problem" with respect to minority students: too few of this growing population are going on to higher education, and even fewer are reaching and completing degree programs in graduate and professional schools. Large numbers of minority students are under-prepared for the demands of post-secondary education, though they may have "completed" the prerequisite twelve grades of formal education. Far too many minority students never reach this stage of "completion," and all too many of those who do lack the essential skill and content competencies required to compete with non-minority students who are more typically the products of "better" private, parochial, and suburban public school systems. Thus, unless steps are taken now to assist this expanding cohort of minorities in preparing for college, the pipeline problem will only be exacerbated by the increasingly larger numbers of unprepared college age minority students from which colleges and universities attract students.

As early as elementary school, minority students--especially those in urban, public school systems--are found to lag behind in skill development and content mastery. As they progress through the system these early developed deficiencies are compounded with the result that by the end of their high school years the affected students are not adequately prepared for higher education.

The University of Illinois has been working for some time to help address this problem. Special programs designed to smooth the transition between high school and higher education have been functioning for a number of years. Outreach activities to minority students in high schools, and even junior high and elementary schools, to help in skill development and content mastery have met with success. Retention efforts designed to provide support to minority students throughout their collegiate careers

are also in place. More recently, the Center for Urban Educational Research and Development at UIC has initiated a program of cooperative research to address, in part, the minority pipeline problem.

Expanded efforts in minority access must also address the need for assistance to minority students who are attempting to prepare for and pursue academic careers. Attention must, therefore, also be paid to the terminus of the pipeline. Typically, this has been understood in terms of programs and services to assure that those students who enter the university as undergraduates have a reasonable opportunity to succeed in earning a bachelors degree. This notion, however, neglects to consider that one reason why institutions have such a difficult time in attracting minority students is the lack of minority faculty present on campus. The real terminus of the pipeline is at the level of preparing minorities to take on faculty responsibilities. To begin addressing this need the University of Illinois proposes to expand graduate and post-doctoral fellowship programs for minorities who may be interested in academic careers. In addition, expanded minority faculty recruitment efforts are underway at both campuses.

Each of these efforts is important not only in helping to produce a more adequately prepared minority applicant pool and for ensuring that the necessary assistance is provided to minority students so that they earn a degree, but these efforts also have a bearing on the economic vitality of the State of Illinois. The changing demographics affecting the mix of young people throughout the population base that produces the State's tax and revenue base will also become increasingly minority. Thus, efforts to better prepare minorities for entrance into higher education, and to see that they have reasonable opportunities to succeed once they have matriculated, will in the long term also ensure a more stable and productive work force, and revenue base, for the State.

Increasing Minority Access Through Early Outreach Programs

The University of Illinois has been involved in early outreach programs to increase the State-wide pool of adequately prepared minority high school graduates since 1975. UIUC initiated efforts in the Principal's Scholars Program in 1975, and UIC began its Saturday College Program of early outreach in 1979. Initially these programs were designed to work exclusively with minority high school students, but over the years they

have expanded to include support services for parents, teachers, principals, and staff members, as well as expansion to include pre-high school students in these developmental activities. The success rates of the programs are quite high in terms of the numbers of participants who go on to pursue higher education. Historically, less than half of the students who participate in either campus' early outreach programs, and who go on to college, attend one of the campuses of the University of Illinois. This is truly a recruitment program for all of higher education.

Nevertheless, at both campuses, there is a need to expand outreach activities to reach more minority students. New FY 1991 funds will permit programmatic expansion to meet three specific needs. First, there is a need to expand presently successful early outreach activities further down into the pre-high school years. An expansion of the junior high and middle school early outreach programs is necessary, as are increased activities at the elementary school level. Second, the Saturday College Program at UIC which has been primarily a health sciences related initiative, will continue to expand to include all colleges on the campus in efforts to expose minority students to a fuller variety of the options available to them in higher education. Third, there is a need to expand present outreach activities to new geographic areas presently underserved by either campus' initiatives. Particularly, increased efforts in the Rockford, Springfield, and Danville areas are needed to meet locally expressed interest and demand for these initiatives.

Increasing Minority Access Through Enhanced Retention Efforts

Many minority students are admitted to the University needing assistance to help them make the transition from high school to college, and to maintain satisfactory progress through their college careers to graduation. Even among minority students who arrive at the University with what appears to be adequate preparation, such as the students involved in the President's Award Program, there is often a need for intensive retention effort (academic orientation, advising, and counseling services).

Both campuses presently offer underprepared students summer bridge and transitional programs that should be expanded to serve more Black and Hispanic students. Incremental funds will provide for proactive monitoring systems at the college level in which each student is assigned an advisor

responsible for closely monitoring their academic performance and for intervening when necessary. Additionally, follow-up services, employing successful minority graduate and undergraduate students, will provide intensive academic tutoring for these students. These tutors will not only serve as role models to minority undergraduates at the beginning of their university careers, but they will also provide tangible evidence of minority students who have succeeded in academe.

Particular attention must be paid to retention efforts among minority students who enter curricula such as business, pharmacy, and medicine. With the heavy emphasis on quantitative skills necessary to complete these curricula, minority students are often severely disadvantaged. Programs are underway which shift the emphasis of academic support from high risk students to high risk courses; these efforts will also be expanded. As well, successful retention efforts for educationally disadvantaged minority medical students will be expanded for the College of Medicine's programs at Rockford, Peoria, and Urbana-Champaign.

The success of the campuses in attracting and retaining minority students is causing a major increase in the workload of the Student Financial Aid Offices. The processing, monitoring, and careful review of scholarship and other awards to this increasing body of minority students has simply overdrawn the present resources of these offices. It is imperative that the success of the University's initiatives in improving minority student access not be thwarted by its inability to provide thorough and timely financial aid services to these students. A modest level of new funds will be used to meet this support need.

Budget Summary of Initiatives at Chicago

20 FTE Academic Staff	\$525.0
3 FTE Nonacademic Staff	45.0
Wages	25.0
Expenses	<u>90.0</u>
TOTAL	\$685.0

Budget Summary of Initiatives at Urbana-Champaign

18 FTE Academic Staff	\$450.0
4 FTE Nonacademic Staff	70.0
Wages	50.0
Expenses	<u>130.0</u>
TOTAL	\$700.0

EXPANDED/IMPROVED PROGRAMS
IV. ENGINEERING REVITALIZATION

ENGINEERING REVITALIZATION
(\$900,000)

Between FY 1984 and FY 1987 the Engineering Revitalization Program has infused approximately \$10.6 million into the Colleges of Engineering at the University of Illinois. These budget enhancements have enabled both Colleges to move toward fulfillment of the development plans that are foundational to the Engineering Revitalization initiative. Most conspicuously, these funds have improved the educational environment in the Colleges by reducing student/faculty ratios. Through a combination of reallocating vacated positions and utilizing new funds provided for revitalization, both Colleges have been successful in attracting top quality new faculty from the nation's premier engineering schools into curricular areas that are vital to current engineering studies. In FY 1987 faculty salaries, at all levels, were fairly competitive with each College's peers. (However, the lack of salary increase funding in FY 1988 has caused salaries to decline precipitously once again.) Revitalization funds have also helped to provide needed equipment and support for teaching assistants and other support personnel.

As the description of student/faculty ratios below makes clear, the revitalization efforts begun in FY 1984 have not yet been completed. However, as later sections depict how funds used to hire new faculty have had dramatic impacts on curricular enrichment, the quality of faculty being attracted to the University of Illinois, and the success the Colleges' faculties have had in generating outside support for their research efforts, it becomes clear that continued efforts to reduce these student/faculty ratios will produce similar, and perhaps even more pronounced effects on the University's efforts in engineering.

Decreased Student/Faculty Ratios

The funds provided in response to the multiyear revitalization requests have had a direct impact upon reducing class sizes, and each department is working to reduce them further, to more appropriate levels. This reduction in class sizes, without reducing total enrollments, does more than merely provide each College with additional faculty and bring student/faculty ratios into closer proximity with what is found at peer institutions,

though these are in themselves important results. Most crucially, the reduction in class sizes brings them closer into line with generally accepted norms for laboratory type courses that prevail in the engineering curricula.

At UIC, student/faculty ratios have dropped to approximately 15 to 1, well on the way to the goal of 13 to 1 established at the outset of the revitalization efforts. At UIUC, a study conducted during 1986 found that in relation to their peers, the ratio of equivalent students per faculty-staff-years was 13.65 to 1, while the comparable figure for all institutions surveyed combined was 11.16 to 1. Thus, there is still further ground to be gained in order for both campuses to compare favorably with their peers.

At UIC, to reach the targeted student/faculty ratio will require an additional 15 FTE faculty over the remaining years of Engineering Revitalization. UIUC projects hiring an additional 50 FTE faculty, to reduce its ratio to approximately 12 to 1.

Curricular Enrichment

Revitalization efforts were undertaken with a blueprint of contemporary academic programs to serve as a magnet for attracting quality faculty and students and to fulfill the Colleges' educational missions, thereby better serving public and private constituencies. It was understood from the outset of the revitalization effort that for the University to maintain and enhance its national prominence in research and academic programs related to engineering curriculum, changes would be needed. Progress in implementing the plan and building the programs identified has been remarkable and provides a foundation for even greater accomplishments as the continuing phases of revitalization are implemented and the Colleges' national reputations continue to climb.

The targeted areas in which new faculty have been hired who are both enriching the curriculum and generating significant research advances are: advanced manufacturing systems; microelectronics; robotics; new engineering materials and unconventional processing; biological processing systems; energy studies; and supercomputing.

Attraction and Retention of Faculty

Revitalization funding has not only made it possible for each campus to increase the total number of faculty in its College of Engineering, but to accomplish these increases by hiring top quality new graduates from the best engineering programs throughout the country, as well as the best available faculty from other outstanding colleges of engineering. UIC has increased its faculty by 22.00 FTE since 1984, and UIUC by 40.00 FTE.

In large part these new additions were made possible by the infusion of new monies that permitted the Colleges to succeed in the intensely competitive academic marketplace for engineering faculty. The Engineering Revitalization funds received to date have also made it possible to retain faculty whom the University would have been in danger of losing if salary compression problems had not been addressed. Again, however, the budget reductions and lack of salary increases in FY 1988 have contributed to recent significant faculty losses at both campuses. Individuals who in prior years had rejected outside offers unilaterally are now accepting them, in large part due to the wavering of support from the State. While this problem extends throughout the University, the Colleges of Engineering are especially vulnerable since the national demand for top quality engineering faculty is particularly acute.

Equipment and Support Personnel

Revitalization funds have also made it possible for the Colleges to provide these new and continuing faculty with the kind of support--equipment and technical support personnel--necessary to permit them to seek out extramural research support from a considerable basis of strength. At UIC, this has meant an increase from roughly \$22,000 in outside research support per faculty member in FY 1984 to nearly \$50,000 per faculty member in FY 1988. At UIUC, which began from a stronger position when revitalization was first initiated, annual extramural research support has increased from approximately \$30 million in FY 1982 to over \$60 million in FY 1988.

Budget Summary of Initiatives at Chicago

4.5 FTE Academic Staff	\$250,000
Expenses	20,000
Equipment	<u>30,000</u>
TOTAL	\$300,000

Budget Summary of Initiatives at Urbana-Champaign

13 FTE Academic Staff	\$450,000
Expenses	135,000
Equipment	<u>15,000</u>
TOTAL	\$600,000

**EXPANDED/IMPROVED PROGRAMS
V. LIBRARY IMPROVEMENTS**

LIBRARY IMPROVEMENTS
(\$400,000)

The Libraries of the University of Illinois are central to the instructional, research, and public service missions of its two campuses. To support the University's multidimensional mission, the Libraries acquire materials in all formats and languages of the world by collecting comprehensively from a vast number of areas of knowledge. The results of that collecting must be made available to library users in an efficient and timely manner. To support campus needs, the Libraries must maintain adequate resources to provide a variety of necessary services enabling the Libraries to: operate high-use public facilities; respond to a diverse clientele ranging from underprepared undergraduates to research and clinical faculty; maintain cooperative relationships with other libraries; act as a State-wide resource for both on-site users and remote users of their vast interlibrary loan systems; and work to make an ever-increasing amount of information available in a wide variety of formats. The materials budget of the Libraries is crucial to the Libraries' ability to provide these services.

The University Library at Chicago is a complex organization, with nine locations in four cities. Its collections consist of more than 1.5 million items, including 15,000 periodicals. Computer search capabilities of world scientific and medical literature are available in Chicago and at branch libraries in Peoria, Rockford, and Urbana-Champaign. The Library of the Health Sciences, one of the larger medical library units in the nation, serves the University and various affiliated institutions throughout the State and is the regional medical library for 2,700 medical libraries in 10 states from North Dakota to Ohio.

The University Library at Urbana-Champaign is the third largest academic research library in the country and serves a campus which grants the third largest number of doctoral degrees in the nation. The Library is internationally recognized, not only for the size of its collections, but also for the scope and quality of its holdings. Its collections consist of more than 12 million items, including 7 million bound volumes; only Harvard and Yale have larger academic collections. UIUC's main library with 38 departmental branches serves as a prime State resource for scholarly

knowledge through ILLINET, the State's computerized interlibrary loan system. It was the second largest lender in the nation among all academic libraries in 1988, lending 136,745 volumes.

The Libraries of the University of Illinois require a strong and competitive funding base to preserve their quality and leadership. Analysis of the University Libraries' collections reveals a disturbing trend. Rising costs for acquisitions, which began to escalate dramatically in 1971, made it impossible for the Libraries to maintain their earlier pattern of growth. During several years of high inflation, incremental funding failed to match the rate of inflation, and a significant differential accumulated between the cost of acquisitions and the funds available for the purchase of library materials. Although the rate of library price increases had moderated for several years in the early eighties, it is rising again and the legacy of earlier inflation continues to undermine incremental appropriations. In the past three years the value of the dollar against foreign currencies has tumbled dramatically. The initiation of discriminatory pricing of journals for North American libraries during this same time period has had an equally traumatic and deleterious effect. In combination, these two factors threaten the stability of serials collections.

Under these circumstances the University has been unable to offset the resultant acquisitions shortage from other fund sources to meet campus and statewide needs. Figure 11 illustrates the discrepancy between price increases for U.S. periodicals and monographs versus the UIUC Library budget increases since FY 1979.

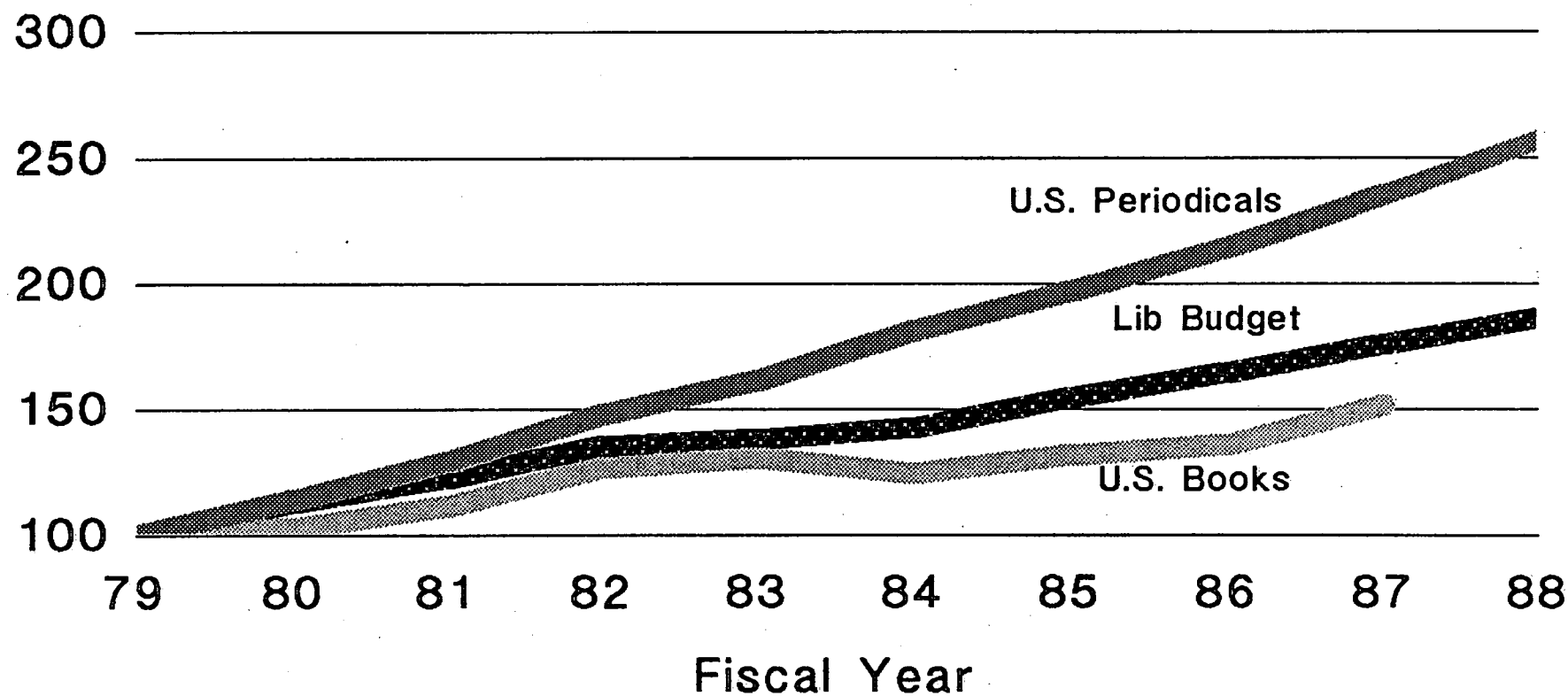
In addition to falling behind inflation, State allocations have also failed to respond to program-related needs. In FY 1988 a survey of 45 UIUC Library fund managers revealed a need for \$328,000 to purchase library materials related to new programs established since 1984, and a need for \$1.2 million to fund accumulated deficiencies. Since FY 1986 a need for greater funding for the libraries at both campuses has been identified to support more than 20 new and expanding academic programs, a number of recently appointed endowed/distinguished professorships, new and rapidly developing research initiatives, and several recently established doctoral programs. Developments in fields such as biotechnology, artificial intelligence, supercomputers, microelectronics, biomedical pharmaceutical engineering, and genetics are having a far-reaching impact on the Libraries'

FIGURE 11

COMPARISON OF UIUC LIBRARY MATERIALS

Budget With Price Of US Books & Periodicals

Price Index



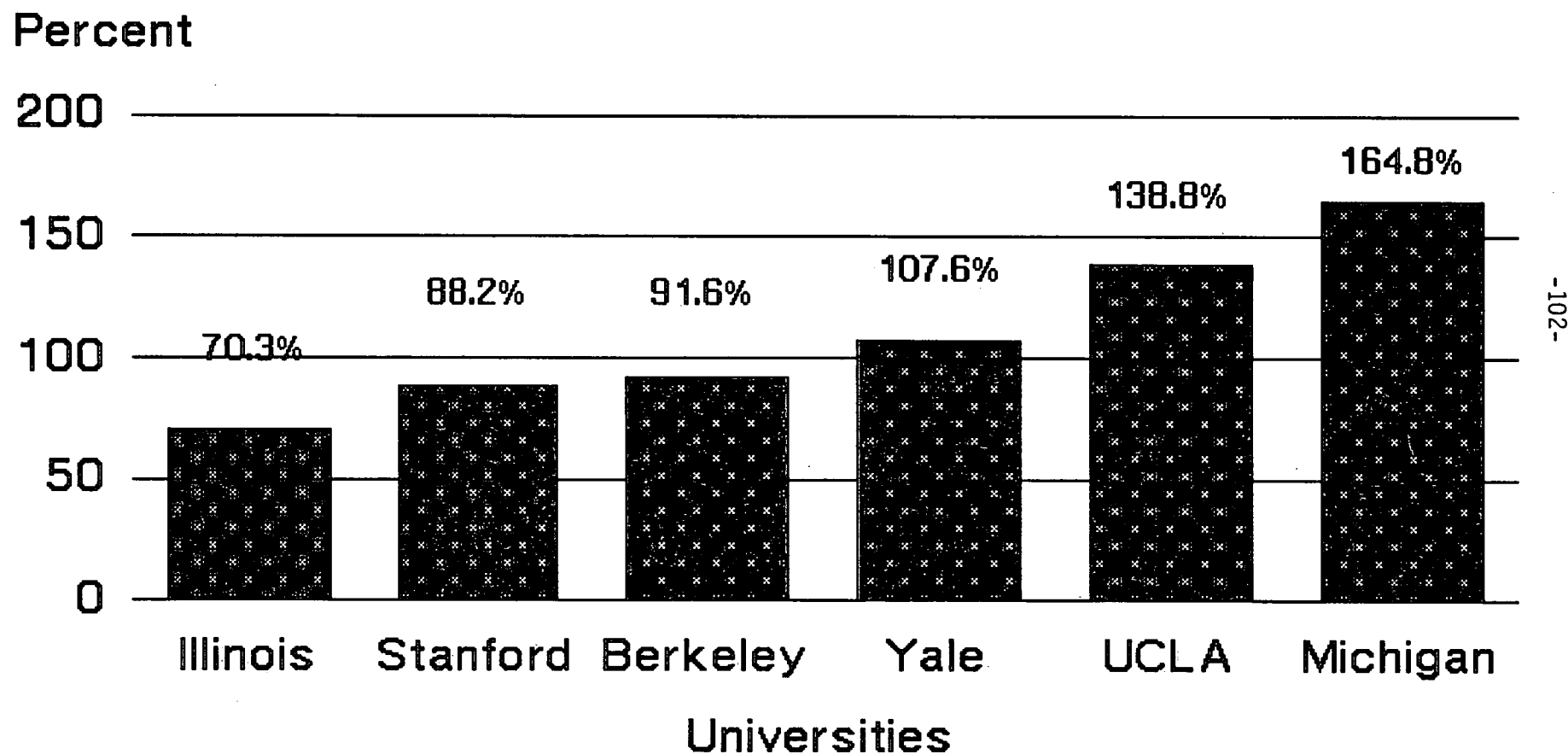
materials budget. The Libraries were unable to address any of these problems in FY 1988 and FY 1989, for the State provided no incremental increase in acquisition funds for these years.

The disparity between library cost increases and appropriations for library materials has most severely affected periodical and serial purchases which presently account for 53% and 61% of the Libraries' acquisition budgets at UIC and UIUC respectively. Annual increases for American periodical subscriptions have averaged 11.1% since 1977. Most, if not all, of the departmental libraries have been forced into a pattern of severely curtailing monograph acquisitions and, in some cases, cancelling serial subscriptions in order to purchase new serial titles. From September 1986 to November 1988 the UIUC Library has been forced to cancel 4,434 serial titles with annual subscriptions worth \$438,000 in law, engineering, physics, history, commerce, and many other fields. The UIC Library has cancelled 309 serial titles over the last three years. The shortage of funds for journal subscriptions is also acute in agriculture, biological sciences, communications, psychology, East Asian studies, history, and music.

The UIC Library in preparing for the next century must acquire and become skilled in the use of a variety of new technologies, primarily electronic methods of storing, manipulating, and moving information. The UIC Library intends to remain in the forefront in the evaluation of, experimentation with, and implementation of these new technologies. In order to continue the development of collections supporting basic instructional and research needs of the University, the UIC Library requests incremental funds to be used to increase the size of the processing staff and to increase the contractual services budget. New funds will complete the conversion of all catalog files to the online catalog, implement an automated reserve request system, enable patrons to use information resources in new formats, and provide direct access to various indexes through the academic network.

The UIUC Library collection has lost ground relative to collections at several peer institutions. Figure 12 illustrates that from FY 1979 through FY 1987 the University of Michigan, Yale University, Stanford University, the University of California at Los Angeles, and the University of California at Berkeley have increased their budgets for acquiring library materials by

FIGURE 12
LIBRARY MATERIAL EXPENDITURE INCREASES
FY 1979-FY 1987



a much larger percentage than has UIUC. The differential in cumulative funding in actual dollars relative to UIUC, ranges from \$959,000 at Berkeley to \$2.4 million at UCLA.

Differential in Cumulative Funding
for Acquisitions
(Dollars in Thousands)

	<u>1979</u>	<u>1987</u>	<u>Increase</u>	<u>Difference</u>	<u>Percent</u>
Illinois-UIUC	\$2,759	\$4,699	\$1,940		70.3%
Stanford	3,681	6,926	3,245	\$1,305	88.2
Berkeley	3,164	6,063	2,899	959	91.6
Yale	3,099	6,434	3,335	1,395	107.6
UCLA	3,120	7,451	4,331	2,391	138.8
Michigan	2,529	6,696	4,167	2,227	164.8

In terms of volumes held, the library at Berkeley with 7.03 million volumes is approaching parity with the UIUC Library which in FY 1987 contained 7.19 million volumes. Although the institutions in Figure 6 other than Yale have smaller collections than UIUC at the present time, it is apparent that if current funding trends continue, these institutions will surpass the UIUC Library in total holdings within a few years. Should this occur, the University will lose an important advantage it currently enjoys in recruiting and retaining faculty. The prestige of its internationally acclaimed library will decline if it is unable to meet adequately the research and instructional needs of its faculty, students, and users throughout the state of Illinois.

The UIUC Library has streamlined its acquisitions procedures and appointed a Director of Library Collections to insure that the acquisitions budget is both effective and focused. The UIUC Library operates extremely efficiently, and the existing resources available for materials expenditures are well utilized. Recent staff cuts have reduced the Library's processing capability to the point that increases in the materials budget must be accompanied by increases in staff as well. The ratio is 15% for personnel and 85% for the materials budget. By increasing both the materials budget and the number of processing staff, a balance will be maintained that will improve the collections and assure that new funding will be effectively expended.

If the budgetary stress described continues for the Libraries, it will affect students and faculty alike. Research resources will be diminished, damaging the quality of education University students receive, making the University of Illinois a less attractive option for productive scholars in all disciplines. The Libraries' ability to serve as State-wide resources will also diminish, impacting educational and research activities throughout Illinois. Not only must the FY 1991 budget provide adequate resources to maintain and to enhance current acquisition rates, but a significant element of recovery from past losses should be introduced if the quality of this crucial educational resource is to be maintained. In order to begin the process of recovery \$400,000 is being requested in FY 1991, \$100,000 for UIC and \$300,000 for UIUC, to help restore the acquisitions budget to an appropriate level and to provide staff to acquire, process and catalog the additional materials.

Budget Summary of Initiatives at Chicago

1 FTE Academic Staff	\$ 26,000
Expenses	<u>74,000</u>
Total	\$100,000

Budget Summary of Initiatives at Urbana-Champaign

6 FTE Nonacademic Staff	\$ 81,000
Wages	9,000
Equipment	<u>210,000</u>
Total	\$300,000

EXPANDED/IMPROVED PROGRAMS
VI. ACADEMIC AND INSTITUTIONAL SUPPORT SERVICES

ACADEMIC AND INSTITUTIONAL SUPPORT SERVICES
(\$440,000)

Over the past decade, the expansion of University of Illinois programs and its physical plant has forced support service units (those units that exist primarily to provide required and specialized services to the University's academic community) to dramatically increase their range and level of services. At the same time, budget constraints affecting the entire University have been felt most severely in these support and service areas. Steadily increasing monitoring and reporting requirements imposed at the State and Federal levels have consumed ever larger amounts of time and energy from current staff.

Areas such as Environmental Health and Safety are highlighted due to a rapid increase in research efforts involving potentially hazardous materials, as well as increasing costs and regulations associated with the handling and disposal of these materials. In addition, security units are faced with the need for increased security patrols as a result of campus expansion and growing theft rates that stem in part from expanded acquisitions of computer equipment.

The initiatives that follow highlight some of the most pressing support needs of the Chicago campus. These range from expansion of student and faculty support services to augmentation of support services which provide a safe and secure environment in which the University's students, faculty, and staff can most productively live, learn, and work.

Safety and Security Activities

Safety on and about campus is of paramount consideration to students, faculty, and staff. The physical growth of the Chicago campus requires an expansion of the level of security provided by unarmed security patrols and police officers. Without an adequate number of personnel to patrol the campus and its surroundings, security is jeopardized and the performance and morale of students, faculty, and staff deteriorate.

Augmentation of present police personnel to meet the security demands posed by the opening of the Student Resident Hall and Commons at UIC is imperative. In addition, the broad introduction of computer hardware and software substantially increases the University's exposure to loss through thefts, burglary, fire, and other hazards. Unarmed security guards are

needed to expand the current security force; extra daytime patrols are required during University break periods to give more intensive coverage to campus laboratories and buildings during times of reduced building occupancy.

Extremely high and dramatically increasing costs make it essential to have a well-managed, safe, and cost-effective program for the disposal of radioactive waste materials that are produced as a result of the University's research and clinical efforts. Incremental funds are necessary to augment existing resources to minimize the quantity of waste held in storage, and to dispose of the waste in a safe, routine, timely, and cost-effective manner.

Disposal of the waste (appropriate packaging, shipping by a licensed carrier, and ultimate disposal at a licensed facility) is governed by University policy as well as an increasingly complex set of Federal, State, and local laws. Until recent years, the cost of disposal was \$1 to \$2 per cubic foot. However, heightened national concerns about nuclear waste disposal have ballooned current costs to over \$45 per cubic foot. Federal surcharges will increase this to nearly \$90 per cubic foot in FY 1990.

An aggressive waste management program to use all safe, legal, and practical means of volume reduction has been initiated on a small scale, but needs to be expanded. This program includes separation of long- from short-lifetime wastes, on-site storage and disposal of decayed short-lifetime wastes, and the compaction and shipping of only long-lifetime wastes. The program has the potential to reduce the annual hazardous waste volume of the University by over 60%, with a corresponding reduction in shipping and storage charges.

Expanded Student Services Activities

Particularly at the Chicago campus, enrollment management and planning has become a critical concern. The changing demographics described in the Minority Access request, combined with widespread institutional choice for commuters in the greater Chicago area, have made efforts to attract and retain an appropriate mix of students an uphill battle. Coordinated and expanded recruiting, advising, orientation, and retention efforts need to be enhanced.

The proliferation of externally mandated reporting requirements placed on the University of Illinois by both State and Federal agencies is causing

a critical overload on the staffs of a number of University service units. For example, the administration of student financial aid is influenced by both internal and external policy changes in requirements and procedures. These changes usually necessitate computer programming alterations, revision and updating of student information materials, retraining of staff at all levels, the coordination with other units impacted by these changes, and ever increasing demands to counsel with the affected students.

Financial aid counselors perform the validation and verification of student files to evaluate aid eligibility and prepare all necessary supporting documents. The workload of each counselor has increased markedly in the last two years due to changes in Federal and State regulations requiring an increasing number of validations and to an increased demand for financial aid services. For example, in FY 1984 validations were required for less than one-third of Pell award recipients, but in FY 1986 two-thirds required validations. Additionally, beginning in FY 1987, all guaranteed loan applications required validation.

In addition to performing validations, financial aid counselors advise students, parents, high school counselors, and the general public regarding more general matters of financial aid through individual conferences, telephone conversations, and group sessions. The fact that each application for any form of financial aid now requires approximately 50% more time to complete than three years ago, has resulted in not only a serious backlogging of financial aid applications, but also in significantly lengthened periods of anxiety for each applicant. The addition of academic professional staff will alleviate this backlog and allow all financial aid counselors to begin resumption of many of the outreach activities which have been necessarily curtailed over the past two years.

Budget Summary of Initiatives at Chicago

4.75 FTE Academic Staff	\$162,500
7 FTE Nonacademic Staff	194,000
Wages	13,000
Expenses	69,500
Equipment	<u>1,000</u>
TOTAL	\$440,000

SPECIAL SERVICES FUNDING

SPECIAL SERVICES FUNDING
(\$600,000)

The University of Illinois provides a variety of special services to the citizens of the State of Illinois. Three of those service areas, the Division of Services for Crippled Children, the County Board Matching program, and the Fire Service Institute, require incremental funding in FY 1991.

Division of Services for Crippled Children

The major activity of the Division of Services for Crippled Children (DSCC) is the provision and support of medical services to children with special health care needs who meet specified medical eligibility criteria. These criteria are categorical; that is, certain medical and surgical conditions are recognized as eligible for services while others are exempted.

Maintaining the current level of activity in the core program is DSCC's highest priority. Because DSCC's State budget was reduced in FY 1987 and FY 1988, and no incremental funds were added in FY 1989, new resources received from other fund sources were re-directed to support existing core program activities. These funds must be restored. Future emphasis will be focused on improving administrative efficiency through accelerated staff development and evaluation of all existing programs.

Review and expansion of medical eligibility criteria to remove potential inequity from the program is DSCC's next priority. The core program has used categorical criteria to determine medical eligibility for services. This approach began with the original program and has been a useful means of targeting services and controlling program costs. However, recent advances in medical knowledge have made it clear that certain medical conditions now considered ineligible for services are very closely related to others which are considered eligible. Separation of eligible and ineligible conditions on a strictly categorical basis has therefore become increasingly difficult and arbitrary. By broadening the categories of eligibility and treating conditions which have natural associations with the traditionally served population, DSCC hopes to remove the perception of inequity which has developed. These conditions would include: disabling chronic eye impairments, urological defects, chronic pulmonary impairments, chronic gastrointestinal disorders, and human growth hormone deficiency.

Incremental funds totaling \$250,000 are requested for FY 1991 to address these needs.

County Board Matching

Under the County Cooperative Extension Law of 1963, amended in 1979, the State, through the University of Illinois, is required to provide appropriations from the Agriculture Premium Fund (APF) to match allocations from county sources in support of County Extension work. The State money now supplements county funds at a dollar for dollar matching rate, a change from the one-third State match in earlier years shown in Table 12.

County or multi-county extension councils are established according to guidelines approved by the University of Illinois Board of Trustees. The councils submit budgets to the appropriate county governing board. The county executive councils forward proposed county or multi-county budgets to the Director of the University of Illinois Cooperative Extension Service for review and approval. Local funds are paid to the University of Illinois to be held in county trust accounts and are used with the APF matching funds in a manner consistent with the approved budgets. Trust funds are used to pay costs such as rent, utilities, some salaries for extension personnel, program materials, and local travel of the more than 100 County Extension officers.

Incremental funds for FY 1991 are requested in the amount of \$300,000 to match anticipated increasing revenues from Illinois counties. The incremental amount requested for FY 1991 represents an 8% increase in the State matching contribution over the FY 1990 level.

Illinois Fire Service Institute

Since the passage of the Illinois Fire Service Institute Act (Public Act 81-1147, effective July 1, 1980), the University of Illinois has received a direct appropriation from the Fire Prevention Fund for the operation of the Institute. Previously, monies had been received through a contract with the Office of the Illinois State Fire Marshal. The monies received from the Fire Prevention Fund are used for four major purposes:

1. To continue conducting programs of training and education for paid and volunteer fire fighters and officers on campus, and at regional and local sites throughout Illinois.

TABLE 12
AGRICULTURAL PREMIUM FUND COUNTY BOARD MATCHING

<u>Budget Year</u>	<u>County Sources</u>	<u>APF State Match</u>	<u>Change in APF Allocations</u>	<u>Total</u>
1978-79	\$2,351,400 (75%)	\$ 783,800 (25%)		\$3,135,200
1979-80	2,539,500 (70%)	1,088,300 (30%)	\$304,500	3,627,800
1980-81	2,546,700 (65%)	1,371,300 (35%)	283,000	3,918,000
1981-82	2,550,000 (60%)	1,700,000 (40%)	328,700	4,250,000
1982-83	2,600,000 (55%)	2,127,300 (45%)	427,300	4,727,300
1983-84	2,800,000 (50%)	2,800,000 (50%)	672,700	5,600,000
1984-85	2,845,000 (50%)	2,845,000 (50%)	45,000	5,690,000
1985-86	2,990,000 (50%)	2,990,000 (50%)	145,000	5,980,000
1986-87	2,997,300 (50%)	2,997,300 (50%)	7,300	5,994,600
1987-88	2,877,300 (50%)	2,877,300 (50%)	(120,000)	5,754,600
1988-89	3,327,300 (50%)	3,327,300 (50%)	450,000	6,654,600
1989-90	3,671,300 (50%)	3,671,300 (50%)	344,000	7,342,600
1990-91	3,971,300 (50%)	3,971,300 (50%)	300,000	7,942,600

2. To provide adequate teaching and training facilities for the Institute.
3. To permit program growth and improvement.
4. To make transfers to the debt service fund to return the bonds issued to build the facility completed in July, 1988.

Additional incremental funds for FY 1991 will be required to meet anticipated salaries and operational costs. Based upon current revenue projections, growth of the Fire Prevention Fund for FY 1991 is estimated to be about 5%, increasing the total fund to approximately \$11.6 million. The University of Illinois' share of the fund (1/8) would be approximately \$1,455,200. The University's FY 1990 appropriation is expected to be \$1,405,200, resulting in a total increment of \$50,000 needed for FY 1991.

APPENDICES

APPENDIX I

RETIREMENT

The level of funding of the State Universities Retirement System (SURS) has been a source of significant concern during the past several years. Although legislation passed in 1967 requires that annual appropriations for the System cover the projected costs of future benefits plus interest on the System's existing unfunded liability (i.e., future pension costs for employees still working), this statutory level of funding has never been reached and, in effect, part of the State's obligation to cover the retirement costs of current employees has been shifted to future years.

There was, however, some movement towards an improved level of retirement funding from FY 1979 through FY 1981. In each of those years the State's contribution was at or above the "gross payout" level of funding--covering all of that year's benefits and administrative expenses. The System was then able to add all employee contributions, as well as interest and dividend income, to the System's assets to help offset the costs of future benefits earned by current employees.

This improved funding was, unfortunately, short-lived. As the State's economy worsened, so did funding for the Retirement System. From FY 1982 through FY 1989 funding dropped significantly below the "gross payout" level. While these reductions were seen as necessary to prevent disastrous cuts in operating funds, the State has in effect been borrowing against the future. Eventually the State will have to compensate for these cuts; the longer it waits to meet these obligations, the more it will cost and the greater the impact on all sectors of the higher education operating budget, including the University of Illinois.

It is a matter of long-standing policy of the Board of Trustees of the University of Illinois that the request for incremental funds for Retirement be set at the amount needed to achieve the statutory funding level. At the Governor's Budget level, as allocated by the IBHE, the University's FY 1990 Retirement appropriation is \$39,573,500. Based on data from SURS, the estimated statutory level for FY 1991 is \$157,100,000. Therefore, an increment of \$117,526,500 would be required to meet this target for FY 1991.

At the same time, it is evident that an increment of this magnitude is unrealistically large to achieve in a single year. Recent studies of the overall health of SURS indicate that a funding level equal to 60% of the "gross payout" benchmark would begin to achieve a measure of fiscal stability for the System and would represent a considerable improvement over the current 44% of "gross payout" level of support. Meeting the 60% benchmark for FY 1991 would require an increment of approximately \$35 million for all of higher education; and this benchmark should be regarded as an essential first step in returning fiscal stability to Retirement funding. The fiscal soundness of the Retirement System is an issue of considerable importance to the institution and its staff, and the University will continue to analyze the State's funding of the System on a regular basis.

BASES AND CALCULATIONS FOR
FY 1991 CONTINUING COMPONENTS INCREASES
(Dollars in Thousands)

I.	Compensation Improvement		
A.	Salary Increase		
1.	FY 1990 Personal Services Base	:	\$518,202.3
2.	95% of the Base	:	\$492,292.2
3.	FY 1991 Percentage Increase	:	6.00%
4.	FY 1991 Increase (on 95% of the Base)	:	\$29,537.5
B.	Fringe Benefits Improvement		
1.	FY 1991 Percentage Increase	:	2.00%
2.	FY 1991 Increase (on 95% of the Base)	:	\$9,845.8
II.	Price Increases		
A.	General Price Increase		
1.	FY 1990 Base	:	\$91,935.8
2.	FY 1991 Percentage Increase	:	6.00%
3.	FY 1991 Increase	:	\$5,516.1
4.	NOTE: The General Price Increase Base includes the following objects of expenditure: Contractual Services, Travel, Commodities, Equipment, Telecommunication Services, Operation of Automotive Equipment, Permanent Improvements, Awards & Grants, Hospital and Medical Services and Appliances, CES Expenses, the Prairie State Games, the Orr Farm and the Chicago Urban Extension Program.		
B.	Utilities Price Increase		
1.	FY 1990 Base	:	\$37,143.7
2.	FY 1991 Percentage Increase	:	5.25%
3.	FY 1991 Increase	:	\$1,951.0
C.	Library Price Increase		
1.	FY 1990 Base	:	\$8,887.0
2.	FY 1991 Percentage Increase	:	12.00%
3.	FY 1991 Increase	:	\$1,066.4
D.	Sick Leave Payout Costs		
1.	FY 1990 Base	:	\$760.2
2.	FY 1991 Estimated Requirement	:	\$3,007.8
3.	FY 1991 Increase	:	\$2,247.6
E.	Medicare Contributions		
1.	FY 1990 Base	:	\$1,718.0
2.	FY 1991 Estimated Requirement	:	\$1,806.9
3.	FY 1991 Increase	:	\$88.9
F.	Worker's Compensation		
1.	FY 1990 Base	:	\$1,670.2
2.	FY 1991 Estimated Requirement	:	\$2,094.0
3.	FY 1991 Increase	:	\$423.8

FISCAL YEAR 1991 FINAL CAPITAL BUDGET REQUEST

FY 1991 CAPITAL BUDGET REQUEST

Introduction

The University's FY 1991 Capital Budget Request is comprised of five major sections: (1) Science and Technology, (2) Regular Capital, (3) Repair and Renovation, (4) Ambulatory Care and (5) Energy Conservation. As in last year's request, upgrading facilities through new construction and major remodeling continues to be a high priority for FY 1991. The following sections summarize the request for projects that are based on the University's most critical needs. This request for capital funds is based on construction in progress, funds that can be reasonably expected in the current legislative session, and an assessment of the facilities which are currently available to meet the academic and research mission of the University of Illinois.

Currently the State is supporting a major Science and Technology program. The State realizes that its economic future relies heavily on the ability to maintain its lead in science and technology related programs, that the basis for these programs is the quality of higher education in Illinois, and that many of the best University-based programs require new or upgraded facilities. The State Science and Technology Facilities Initiative, introduced in FY 1990, encompasses the first area of the University's FY 1991 capital request and involves the construction of several high priority building projects supporting the overall science/technology theme.

The regular capital segment of the FY 1991 request focuses on utility and equipment needs necessary to support the University's facility and program growth, as well as remodeling and renovation of existing facilities. In addition, planning for new construction and remodeling continues to be emphasized so that future instructional and research space requirements can be met. It is important that planning for future projects occur even while major construction and remodeling activities are underway for projects already planned, so that a reasonably orderly process of facility remodeling and space additions can be maintained over a multi-year period.

As in previous years, the Repair and Renovation portion of the FY 1991 request addresses smaller renovation needs not large enough to compete with major remodeling requests, but which in the aggregate, represent a very significant priority for capital funding.

The fourth segment of the University's capital request is devoted to an Ambulatory Care Facility at the Chicago campus. This facility is critically important to meet the changing educational focus for all health care professionals, to retain and attract the top-quality of faculty physicians, to help increase the patient base for the University of Illinois Hospital, and to provide the highest quality of patient care to Illinois residents.

The need for new ambulatory care facilities for the University has been apparent for nearly a decade and has steadily increased in importance each year. During the lengthy and complex discussions of health care needs in the past session of the General Assembly, the need for new ambulatory care facilities to serve the West Side of the City of Chicago and to provide a setting for health professions education at the University was explicitly recognized. Funds for such an ambulatory care facility were in fact appropriated, but because the underlying health care and education organizational changes were not approved by the General Assembly, the project was vetoed. The need for a new ambulatory care facility remains critical. Since it will serve both educational and patient care needs, the facility is being requested separately from the University's other academic projects.

In the final segment of the FY 1991 request, \$777,359 is sought as matching funds in the eleventh cycle for the U.S. Department of Energy's grants for energy conservation projects.

Science and Technology

At both campuses the current space limitations for physical and life sciences present a compelling facilities need which the University must address. Meeting this critical priority will be achieved through the State's new Science and Technology program with the construction of a Molecular Biology facility in Chicago and a Chemical and Life Sciences facility in Urbana. These two projects represent a total financial commitment including planning (appropriated in FY 1990), construction, equipment, and required utility support, of approximately \$121.7 million. A summary of costs associated with these two projects is shown in Table 1 immediately following this introduction.

Regular Capital

Several high priority requests are essential to support the completion of recent additions of new buildings and Build Illinois remodeling projects. The final phase of the utility infrastructure upgrade is required to support past north and south campus initiatives at the Urbana-Champaign campus. Movable equipment is needed to complete the Environmental Sciences Building remodeling project and the Plant and Animal Biotechnology Laboratory now under construction on the Urbana-Champaign campus. Timing is a critical aspect of the equipment request, because funds must be appropriated and the equipment ordered and delivered in time to furnish and equip the buildings as they are completed.

Upgrading facilities through major remodeling continues to be a high priority at both campuses. These projects seek to renovate existing campus buildings to address programmatic and structural needs. Of the \$60.1 million need described in the regular capital request, \$40.6 million or more than two-thirds is devoted to remodeling projects. Included in this request are the English Building at Urbana-Champaign and the Revitalization of the Campus Core at the Chicago campus.

Equally important in this request, planning funds of \$7.8 million (13%) for new construction or major remodeling projects, representing approximately \$160 million in future needs, are also included for FY 1991. A top priority is planning for construction of a 41,200 assignable square feet addition to the Art & Architecture Building at Chicago which has an acute and long standing need for additional space for its highly regarded and productive instructional programs. Many of the FY 1991 planning requests are also oriented towards science and technology areas. Although substantial funding has been obtained for high technology initiatives in the past, additional funding is necessary to continue the progress which the State has made in providing a "critical mass" of facilities that can help propel the State into stable, long-term growth.

The FY 1991 capital request has been reviewed by the campus and University administrations and integrated into a set of University capital budget priorities. The 22 projects that comprise the regular capital priority list are displayed in Table 2. In addition to the priority list, Table 3 provides a breakdown of the budget request by category and by

campus; Table 4 illustrates the financial impact of the FY 1990 projects for future year requirements; and Table 5 details the cost per square foot that is anticipated for new buildings and major remodeling projects requested for FY 1991. Complete descriptions of the projects are included in the sections which follow this introduction.

Status of Ongoing Projects

To understand the direction and emphasis of the FY 1991 request, it is important to view the request in the context of past capital appropriations. Table 6 provides a summary of actions on capital budget requests from FY 1986 through the FY 1990 appropriation, and Table 7 shows the construction status of recent appropriations through FY 1989.

The projects which were approved for FY 1990 capital appropriation, including Science and Technology projects, are shown below along with their proposed funding levels.

Science and Technology

Chicago

Molecular Biology Laboratory (Plan)	\$ 1,966,000
Equipment: Engineering Research Facility	6,026,800

Urbana-Champaign

Chemical & Life Sciences Building (Plan)	\$ 2,425,000
Computer and Systems Research Lab	11,632,900
Noyes Laboratory Remodeling	2,233,000
Superconductivity Bridge	3,150,300
Critical Equipment	4,300,000

Regular Capital

Chicago

Alumni Hall Remodeling	\$ <u>4,597,000</u>
TOTAL	\$36,331,000

While several important Science and Technology projects were funded in the FY 1990 appropriations, it is essential that the University maintain

its course and continue to support its faculty and academic programs with state-of-the-art facilities. Critical projects which address renovation needs are backlogged and urgently require attention, along with the construction of new facilities to support the expansion of a number of programs important to the State's overall economic development.

Repair and Renovation Projects

In FY 1990, appropriation for the new Science and Technology Repair and Renovation program provided the University with an alternative to the Build Illinois program suspended in FY 1989. Very similar to the Build Illinois program in both size and scope, this program provides the University with critically needed support to improve instructional and research facilities which are integral to a wide range of science curricula and to repair or upgrade support systems serving the entire University.

As in the past, the types of projects in the FY 1991 Repair and Renovation request include the realignment of space to meet changing programmatic needs, the remodeling of space to restore old or heavily worn facilities, and the replacement of building and campus utility systems. This program would allow each campus a measure of flexibility uncharacteristic of the regular capital funding process. The project lists included in this request are summarized in Table 8. As in past years, these lists may undergo minor changes in terms of specific projects to be funded or in the elements a project will include, depending on the priorities which are most critical to the University at the time that the funds become available.

Ambulatory Care Facility

The need for an ambulatory care facility has been restated continuously since 1972. The ability of the Hospital and the College of Medicine to attract and retain top-quality faculty physicians and health care providers has been impaired by the deferral of this facility. Health care education has undergone significant changes in recent years, from focusing on the delivery of services on an inpatient basis to the delivery of services on an outpatient basis. As a result of these changes, an ambulatory care facility is needed to meet instructional needs and to provide

appropriate training for tomorrow's health care professionals. The proposed ambulatory care facility will enhance the quality of health care education by increasing and diversifying the University's patient base, and it will promote the Hospital's mission to provide a comprehensive range of high quality medical care to the citizens of the State of Illinois.

Energy Conservation Projects

Since FY 1982, the University has requested funding from the U.S. Department of Energy's Institutional Building Grants program for energy conservation capital improvements. These grants have been matched by the State on a one-for-one basis. Capital appropriation bills for FY 1990 include State matching funds of \$391,800 for the Chicago campus and \$172,400 for the Urbana-Champaign campus. This year, the University is requesting \$777,359 in State funds to match a federal grant supporting seven energy conservation capital improvements. The specific projects are listed in Table 9.

TABLE 1
SCIENCE AND TECHNOLOGY PROJECTS
(Dollars in Thousands)

Project	Gross Sq. Ft.	Funded in FY 1990	FY 1991	Costs for FY 1992 and beyond	Total
Urbana-Champaign:					
Chemical & Life Sciences Research Lab.	228,126				
Planning		\$2,425.0			
Construction			\$56,943.2		
Utilities			8,200.0		
Land			450.0		
Equipment				\$5,500.0	
TOTAL		\$2,425.0	\$65,593.2	\$5,500.0	\$73,518.2
Chicago:					
Molecular Biology Research Facility	193,000				
Planning		\$1,966.0			
Construction			\$39,350.5		
Site Development			\$2,579.0		
Utilities			\$1,829.0		
Equipment				\$2,500.0	
TOTAL		\$1,966.0	\$43,758.5	\$2,500.0	\$48,224.5
TOTAL UNIVERSITY		\$4,391.0	\$109,351.7	\$8,000.0	\$121,742.7

TABLE 2
UNIVERSITY OF ILLINOIS
FY 1991 REGULAR CAPITAL BUDGET REQUEST
PRIORITY LIST
(Dollars in Thousands)

Priority	Campus	Project	Budget Category	FY 1991 Request	Cumulative Cost		
					University	Chicago	Urbana
1	U1	Util. Infrastruct. Upgrade/Water System Improve.	UTIL	\$ 4,230.0	\$ 4,230.0		\$ 4,230.0
2	U2	University Critical Equipment	EQUIP	3,750.0	7,980.0		7,980.0
3	C1	Revitalization of Campus Core	REMD	4,300.0	12,280.0	\$ 4,300.0	
4	C2	Instructional Space Addition - AAB	PLAN	832.6	13,112.6	5,132.6	
5	U3	English Building Remodeling Phase III	REMD	3,850.0	16,962.6		11,830.0
6	U4	FY 1991 Critical Remodeling	REMD	4,640.0	21,602.6		16,470.0
7	U5	Electrical Engineering Research Lab.	PLAN	1,530.0	23,132.6		18,000.0
8	C3	Science & Engineering South Addition	PLAN	1,625.0	24,757.6	6,757.6	
9	U6	Campus Site Improvements	SITE	1,250.0	26,007.6		19,250.0
10	U7	Campus Police Station	BLDG	1,769.0	27,776.6		21,019.0
11	C4	Science and Engineering Library	PLAN	1,500.0	29,276.6	8,257.6	
12	C5	Assoc. Health Professions Bldg. Remd. - Phase 1	REMD	8,604.7	37,881.3	16,862.3	
13	C6	College of Business Administration Bldg.	PLAN	1,215.0	39,096.3	18,077.3	
14	U8	Social Work Building	PLAN	185.0	39,281.3		21,204.0
15	U9	English Building Remodeling Phase IV	PLAN	480.0	39,761.3		21,684.0
16	C7	Pharmacy Building	REMD	1,856.0	41,617.3	19,933.3	
17	U10	Mechanical Engineering Laboratory Remodeling	REMD	3,900.0	45,517.3		25,584.0
18	C8	Alumni Hall Remodeling, Phase III	REMD	4,500.0	50,017.3	24,433.3	
19	U11	Main Library Remodeling	PLAN	190.0	50,207.3		25,774.0
20	U12	Agriculture Replacement Land	LAND	700.0	50,907.3		26,474.0
21	C9	College of Medicine West Tower Remd. - Phase 1	REMD	8,948.0	59,855.3	33,381.3	
22	U13	Engineering Hall Remodeling	PLAN	240.0	60,095.3		26,714.0

TABLE 3
UNIVERSITY OF ILLINOIS
FY 1991 REGULAR CAPITAL BUDGET REQUEST
SUMMARY BY CAMPUS AND CATEGORY
(Dollars In Thousands)

<u>Category</u>	<u>Chicago</u>	<u>Urbana-Champaign</u>	<u>Total</u>
Buildings, Additions, and/or Structures		\$ 1,769.0	\$ 1,769.0
Land Acquisition		700.0	700.0
Moveable Equipment		3,750.0	3,750.0
Utilities		4,230.0	4,230.0
Remodeling	\$ 28,208.7	12,390.0	40,598.7
Site Improvements		1,250.0	1,250.0
Planning	<u>5,172.6</u>	<u>2,625.0</u>	<u>7,797.6</u>
TOTAL	\$ 33,381.3	\$26,714.0	\$60,095.3

TABLE 4
UNIVERSITY OF ILLINOIS
FUTURE FUNDING IMPLICATIONS OF THE
FY 1991 REGULAR CAPITAL BUDGET REQUEST
(Dollars in Thousands)

<u>Priority</u>	<u>Campus</u>	<u>Project</u>	<u>Budget Category</u>	<u>FY 1991 Request</u>	<u>FY 1992 Costs</u>	<u>Cost for FY 1993 and Beyond</u>
1	U1	Utility Infrastructure Upgrade/Water System Improve.	UTIL	\$ 4,230.0		
2	U2	University Critical Equipment	EQUIP	3,750.0		
3	C1	Revitalization of Campus Core	REMD	4,300.0		
4	C2	Instructional Space Addition - AAB	PLAN	832.6	\$15,096.6	\$ 1,250.0
5	U3	English Building Remodeling Phase III	REMD	3,850.0		
6	U4	FY 1991 Critical Remodeling	REMD	4,640.0		
7	U5	Electrical Engineering Research Lab	PLAN	1,530.0	32,950.8	1,500.0
8	C3	Science and Engineering South Addition	PLAN	1,625.0	30,875.0	7,500.0
9	U6	North Campus Site Improvements	SITE	1,250.0		
10	U7	Campus Police Station	BLDG	1,769.0	75.0	
11	C4	Science and Engineering Library	PLAN	1,500.0	28,500.0	8,000.0
12	C5	Associated Health Professions Building	REMD	8,604.7	6,769.0	
13	C6	College of Business Administration Bldg.	PLAN	1,215.0	22,603.1	1,250.0
14	U8	Social Work Building	PLAN	185.0	3,615.0	350.0
15	U9	English Building Remodeling Phase IV	PLAN	480.0	4,800.0	250.0
16	C7	Remodel Pharmacy Building	REMD	1,856.0	1,795.0	\$ 1,580.0
17	U10	Mechanical Engineering Lab Remodeling	REMD	3,900.0	50.0	700.0
18	C8	Alumni Hall Remodeling - Phase III	REMD	4,500.0	750.0	500.0
19	U11	Main Library Remodeling	PLAN	190.0	1,900.0	250.0
20	U12	Agriculture Replacement Land	LAND	700.0		
21	C9	College of Medicine West Phase I	REMD	8,948.0	7,763.0	23,289.0
22	U13	Engineering Hall Remodeling	PLAN	<u>240.0</u>	<u>2,400.0</u>	<u>200.0</u>
TOTAL				\$60,095.3	\$159,942.50	\$ 46,619.0

TABLE 5
UNIVERSITY OF ILLINOIS
FY 1991 CAPITAL BUDGET REQUEST
COST PER SQUARE FOOT OF NEW BUILDING AND MAJOR REMODELING PROJECTS BY CAMPUS

	<u>Project Cost</u>	<u>Gross Square Feet</u>	<u>Net Assignable Square Feet</u>	<u>Efficiency NASF/GSF</u>	<u>\$/GSF</u>	<u>\$/NASF</u>
<u>Chicago</u>						
Major Remodeling						
Alumni Hall - Phase 3	\$ 4,500,000		24,447			\$184.07
Assoc. Health Professions Bldg.	8,604,700		107,500			80.04
College of Med. W. Tower - Phase 1	8,948,000		121,800			73.46
Pharmacy Building - Phase 2	1,856,000		16,800			110.48
Revitalization of Campus Core	4,300,000		135,000			31.85
<u>Urbana-Champaign</u>						
New Buildings						
Campus Police Station	\$ 1,769,000	15,400	8,800	0.57	114.87	\$201.02
Major Remodeling						
English Building - Phase 3	\$ 3,850,000		61,940			\$62.16
Mechanical Engineering Lab	3,900,000		48,083			81.11

TABLE 6
HISTORY OF RECENT CAPITAL BUDGET ACTIONS

	<u>FY 1986</u>	<u>FY 1987</u>	<u>FY 1988</u>	<u>FY 1989</u>	<u>FY 1990</u>
<u>Campus Requests</u>					
Chicago	\$26,253,500	\$19,564,400	\$24,177,000	\$48,293,200	\$38,085,500
Urbana-Champaign	<u>18,556,500</u>	<u>39,148,900</u>	<u>33,643,800</u>	<u>30,198,500</u>	<u>44,439,000</u>
TOTAL	\$44,810,000	\$58,713,300	\$57,820,800	\$78,491,700	\$82,524,500
<u>IBHE Recommendations</u>					
Chicago	\$11,712,800	\$ 8,869,100	\$18,393,000	\$23,874,500	\$31,010,300
Urbana-Champaign	<u>9,140,000</u>	<u>29,718,800</u>	<u>18,589,000</u>	<u>17,005,000</u>	<u>36,672,700</u>
TOTAL	\$20,852,800	\$38,587,900	\$36,982,000	\$40,879,500	\$67,683,000
<u>Regular Capital Appropriation¹</u>					
Chicago	\$14,112,800	\$22,499,900		\$12,577,900	\$ 4,597,000
Urbana-Champaign	<u>20,045,300</u>	<u>28,817,400</u>	<u>\$ 7,779,000</u>	<u>3,070,000</u>	
TOTAL	\$34,158,100	\$51,317,300	\$ 7,779,000	\$15,647,900	\$ 4,597,000
<u>Appropriations for Special Projects</u>					
Food Production Research	\$ 600,000				
Energy Conservation		\$ 296,400	\$ 547,136	\$ 489,600	\$ 564,200
Build Illinois R & R	7,834,000	7,834,000	7,834,000		7,834,000
Build Illinois - Major Projects ²	1,700,000	14,500,000	2,000,000		31,734,000
Fire Service Institute	2,600,000 ³				
Beckman Institute	10,000,000				
Pollution Control Equipment		<u>800,000⁴</u>			
TOTAL	\$22,734,000	\$23,430,400	\$10,381,136	\$ 489,600	\$40,132,200
<u>Total Appropriation</u>					
University of Illinois	\$56,892,100	\$74,747,700	\$18,160,136	\$16,137,500	\$44,729,200

¹Excludes appropriations for special projects.

²Build Illinois - Major Projects becomes Science and Technology in FY 1990

³The Fire Service Institute will make an annual payment of \$218,400 for a period of 24 years to the State of Illinois for debt service associated with this appropriation.

⁴Funds lapsed in FY 1988

TABLE 7
STATUS OF CAPITAL PROJECTS
FY 1984 - FY 1989
AS OF AUGUST 1989
(Dollars In Thousands)

	Project Cost	Estimated Completion Date	Status
FY 1984 Appropriations			
<u>Chicago</u>			
Roof Replacement, Peoria College of Medicine	\$ 202.9		Complete.
Hazardous Waste Incinerator	457.1		Complete.
FY 1984 TOTAL	\$ 660.0		
FY 1985 Appropriations			
<u>Chicago</u>			
Pharmacy Bldg. Air-Cond. (planning)	\$ 433.2	6/91	Construction started 6/2/89.
Library Renovation & OAR Relocation (planning)	324.5	3/90	Construction 75% complete.
Energy Conservation	781.5		Complete.
Subtotal	\$ 1,539.2		
<u>Urbana-Champaign</u>			
Plant Sciences Greenhouse Complex	\$10,116.1		Complete.
Animal Sciences Lab Chilled Water Line	354.6		Complete.
Roof Replacement, Various Buildings	524.2		Complete.
Energy Conservation	860.6		Complete.
Subtotal	\$11,855.5		
FY 1985 TOTAL	\$13,394.7		
FY 1986 Appropriations			
<u>Chicago</u>			
Pharmacy Building Remodeling & Air-Cond.	\$ 5,218.0	6/91	Construction started 6/2/89.
Office of Admissions and Records Relocation	1,149.8		Complete.
Engineering Research Facility (planning)	2,400.0	9/90	Construction 22% complete.
Library Renovation	5,345.0	3/90	75% complete. Asbestos abatement in progress.
Build Illinois (R & R)	3,284.9		Complete.
Subtotal	\$17,397.7		

TABLE 7 (cont.)

	Project Cost	Estimated Completion Date	Status
<u>Urbana-Champaign</u>			
Fire Service Institute	\$2,600.0		Complete.
Swine Research Center	1,745.3		Complete.
Environmental Sciences Building Remodeling	3,500.0	4/90	15% complete.
Digital Computer Lab Addition	1,100.0	6/90	45% Complete.
Animal Sciences Lab Addition (Build Illinois)	1,000.0	11/92	5% complete.
Microelectronics Center	13,700.0		Complete.
Food for Century III	600.0		Complete.
Beckman Institute	10,000.0		Complete.
Build Illinois (R & R)	4,549.1		Complete.
Orr Farm Purchase	700.0		Complete.
Subtotal	\$39,494.4		
FY 1986 TOTAL	\$56,892.1		
FY 1987 Appropriations			
<u>Chicago</u>			
Engineering Research Facility	\$22,499.9	1/91	Construction 22% complete.
Energy Conservation	296.4	9/90	Design development.
Build Illinois (R & R)	3,284.9	2/89	75% complete.
Subtotal	\$26,081.2		
<u>Urbana-Champaign</u>			
Digital Computer Lab Addition	\$17,417.4	6/90	45% complete.
Utility Infrastructure Upgrade	9,410.0		Complete.
Motor Pool Relocation	1,990.0		Complete.
Build Illinois (R & R)	4,549.1		Complete.
Animal Sciences Lab Addition (Build Illinois)	14,500.0	11/92	5% complete.
Pollution Control Equipment	800.0		Funds lapsed 7/87.
Subtotal	\$48,666.5		
FY 1987 TOTAL	\$74,747.7		
FY 1988 Appropriations			
<u>Chicago</u>			
Build Illinois (R & R)	\$3,284.9	10/90	Construction underway.
Energy Conservation	458.8	1/91	Design development.
Subtotal	\$3,743.7		

TABLE 7 (cont.)

	Project Cost	Estimated Completion Date	Status
<u>Urbana-Champaign</u>			
Build Illinois (R & R)	\$4,549.1	1/90	Construction underway.
Animal Sciences Lab Addition (Build Illinois)	2,000.0	11/92	5% complete.
Energy Conservation	88.4	6/90	5% complete.
Federal Research Facility Site Improvement	1,000.0		Complete.
Beckman Institute Equipment	3,000.0		Complete.
Utility Infrastructure Upgrade	<u>3,779.0</u>	10/89	90% complete.
Subtotal	\$14,416.5		
FY 1988 TOTAL	\$18,160.2		
FY 1989 Appropriations			
<u>Chicago</u>			
Asbestos Abatement			
Clinical Sciences South	\$1,745.0	7/91	Design development.
University Center Library	495.0	11/89	50% complete.
Pharmacy Building	790.0	3/90	30% complete.
Clinical Sciences Building Remodeling	9,547.9	7/91	Design development.
Energy Conservation	<u>255.3</u>	1/91	Design development.
Subtotal	\$12,833.2		
<u>Urbana-Champaign</u>			
Asbestos Abatement			
Old Vet. Med./Env. Sci. Bldg.	\$600.0	4/90	Design development.
Utility Infrastructure Upgrade	2,470.0	12/90	Funds released 4/26/89.
Energy Conservation	<u>234.3</u>	1/91	Design development.
Subtotal	\$3,304.3		
FY 1989 TOTAL	\$16,137.5		

SCIENCE AND TECHNOLOGY PROJECTS

FY 1991 SCIENCE AND TECHNOLOGY PROJECTS

Chemical and Life Sciences Laboratory - Construction (\$65,593,200)

For the next several decades it is anticipated that basic chemical and life sciences research will profoundly affect our quality of life. As in many other areas of scientific inquiry, new developments in the chemical and biological sciences are increasingly the result of cooperative and collaborative efforts among researchers from multiple disciplines. Developments underway in genetic engineering have major implications for global food production through the creation of agricultural products with improved growth rates and reproductive capabilities. Other well-publicized examples of the use of this technology involve the correction of specific genetic defects in diseased human cells and the release into the environment of genetically engineered organisms to detoxify chemical wastes, digest oil spills, and prevent crop damage from exposure to below-freezing temperatures. The opportunity to merge programs in the chemical and life sciences in a single facility will greatly enhance these and many other collaborative efforts.

To attract faculty and students to these and other emerging areas, new facilities are required. Established companies--including DuPont, Monsanto, Upjohn, Searle, Eli Lilly, Abbott, Kodak, and Corning Glass--as well as other universities--including Princeton, Michigan, Michigan State, Indiana, Maryland, Rutgers, and Berkeley--all have major new research facilities under construction. These developments have placed the University of Illinois, whose facilities are outmoded and not readily adaptable to new research activities, at a distinct disadvantage. Proper facilities must be available to attract and retain the best faculty and students so that the full benefit of research and instruction in these vital areas is retained within the State of Illinois.

The companies and universities mentioned above are luring University of Illinois faculty away with increased salaries and the promise of state-of-the-art facilities. The University, as an employer, cannot compete with these offers on a purely monetary basis. Nor can the University presently compete in providing facilities for scientific inquiry. On the average, it takes from \$100,000 to \$150,000 of set-up funds to establish an adequately

equipped laboratory for the chemical and life sciences. The University struggles in each instance to establish a new faculty member.

Work goes on in the University's laboratories, but it is clearly inefficient and relatively crude compared to what could be done in modern facilities. There are a number of important research activities that cannot be conducted at all because the University currently lacks the proper facilities. For example, the use of radioactivity, lasers, tissue culture facilities, and isolation rooms for experiments was virtually unknown 30 years ago. Yet such facilities represent a very basic need in today's research environment. Similar problems plague the University's instructional laboratories; it has been necessary to "water down" some experiments and to eliminate others. This, of course, negatively affects the educational experience of the students.

The School of Chemical Sciences and the School of Life Sciences currently have a combined space deficiency of 126,500 net assignable square feet (NASF). Because of the magnitude of this space deficiency, the Schools have no temporary space to accommodate scientists whose space is being remodeled. It is therefore impossible to remodel large sections of the Schools' space at one time. However, the space problems of these units extend far beyond their existing and projected space deficiencies. Much of the space currently assigned to these units is outdated and is totally inappropriate for modern instruction and research, and it must be replaced.

Because of the magnitude of the Schools' space deficiency, and because certain specialized facilities do not currently exist, new modern facilities are required. The proposed Chemical and Life Sciences Laboratory will fulfill that need, and will make possible future collaborative efforts between the chemical and life sciences that otherwise would be impossible. The total cost of this facility is estimated at \$73.5 million which includes planning (appropriated in FY 1990), land, construction, utility upgrade, and equipment costs to be requested in FY 1992.

The building is programmed to contain the following types and amounts of space:

<u>Room Type and USOE Code</u>	<u>NASF</u>
Research Lab - Wet (250, 255)	107,100
Office (310, 315, 350)	20,750
Animal Rooms (570, 575)	1,330
Lounge (650)	2,000
Storage (730)	6,500
TOTAL	137,680

This project, because of its size and location, will require a substantial upgrade to the electrical, steam, and chilled water infrastructure capacity serving the center of campus. Currently, there is no excess capacity on the center campus to provide the needed chilled water requirements for this new facility. In fact as the campus engineers studied the situation, they concluded that, because the seven building complex containing the Schools of Chemical and Life Sciences either require chilled water or the replacement of large individual building systems that are nearing the end of their operating lives, it would be more efficient and cost effective to have a chilled water center serving this cluster of buildings than for each building to have its own individual system.

The existing electrical capacity in the center of campus cannot currently supply the needs of the proposed building. The creation of Load Center #7 will be required to provide the electrical demand for the central part of campus into the twenty-first century.

Other substantial utility extensions for this project involve steam and telephone. The telephone extension involves extending a 600 pair service from the Davenport Hall distribution node. The steam extension will be made to the Mathews Avenue steam tunnel, a distance of approximately 420 lineal feet. The water and sanitary sewer will be connected to the mains located under Mathews Avenue. The total cost for the required utility upgrade will be approximately \$8.2 million.

The proposed site for this facility includes three University owned properties and three privately owned properties that need to be acquired. It is estimated that it will cost \$450,000 to make these purchases.

Constructing a facility for the joint use of the Schools of Chemical Sciences and Life Sciences will not only address the severe space problems of these units; it will also provide an exciting opportunity for interdisciplinary work. Further, a centralized facility would eliminate costly duplication of equipment and increase the efficiency of laboratory activities.

Molecular Biology Research Building - Construction (\$43,758,500)

The biological and biomedical sciences are currently in the midst of a major revolution, brought about by the techniques and concepts of molecular

biology and molecular genetics. No area in the life sciences has been left untouched by this revolution, which has been driven primarily by the developing capabilities in recombinant DNA and gene cloning. (The term molecular biology is used here in a limited sense, to denote those areas of fundamental and applied research involving recombinant DNA technology.)

Molecular biology research has become a central theme in all areas of the life sciences. In addition to providing basic information on fundamental principles of biological organization and activity, the research has applications in areas as diverse as human health, the environment, agriculture, and energy production. In the area of human health, for example, recombinant DNA research has provided major insights into the molecular basis of human disease, dramatic new methods of treatment based on gene therapy, the production of important pharmaceuticals and vaccines by means of genetic engineering, and significantly improved methods of diagnosis by means of molecular probes. The tremendous commercial implications of recombinant DNA research have been proven, and an entire new industry of genetic engineering has developed within the span of a few years. By now, genetically engineered reagents have become the preferred means of treating a variety of human diseases, including diabetes, dwarfism, and some forms of cancer. Clearly, molecular biology has implications and applications for many different disciplines in several departments and colleges within the University.

In addition to its impact on the research and educational capabilities of the University, a first rank molecular biology program will greatly facilitate the University's efforts to help Illinois capitalize on the current biotechnology revolution and to support and stimulate the growth of the biotechnology industry in the State. Other states such as California and Massachusetts have demonstrated that strong research programs within the academic community can significantly stimulate the growth of the State's biotechnology industry.

The University of Illinois at Chicago has developed some strong areas of concentration in molecular biology. To take advantage of these areas of strength for future growth and to develop a solid foundation of molecular biology research for the entire academic community, it is essential that the University provide a major new research facility for molecular biology.

A new building for molecular biology research will also provide a vehicle through which major campus goals can be achieved in the areas of interdisciplinary campus-wide expansion of molecular biology research into new departments, faculty recruitment and retention, advanced training, visibility to the outside community, and university-industrial relations.

The principal feature of the proposed new molecular biology research building is its interdisciplinary nature founded upon common interests and mutual benefits. The building will be shared by faculty from a number of different departments and colleges from across the campus. In addition, the molecular biology community in the building could serve as the focus for expansion of molecular biology into basic science and clinical departments.

Bringing together the community of molecular biology researchers in a new building will also have a significant impact on education and training activities at the University. The concentration of molecular biology research within a single building will provide a most attractive training situation for students at all levels, including undergraduates, graduate students and postdoctoral trainees in basic and clinical science disciplines. Thus, the recruitment of top students and trainees by many departments and colleges at the University will be enhanced by the new building.

The facility is planned to provide a building sized to accommodate the consolidation of existing programs in Genetics, Biological Sciences, Microbiology and Immunology, Biological Chemistry and other departments. It must also provide for expansion of these programs and the development of new programs. The program is projected to accommodate 50 faculty and 450 research staff who will attract approximately \$5 million of annual grant support.

Facility needs for research in molecular biology are determined by the size and composition of "research teams," the configuration of basic laboratory-office modules, the amount and distribution of shared research facilities, and general support needs. Research in molecular biology requires substantial environmental control dependent on special equipment and facilities. The research teams and their facility resources are organized to provide a modular organization of facilities and functions and to provide an efficient and effective research environment.

Research teams will vary in size from five to fifteen persons with the most frequent groupings consisting of about ten people. Research teams consist of a faculty member as a principal investigator and a supporting research staff. These research teams are accommodated in standard laboratory and office modules, supported by shared-use facilities and general support facilities.

Basic laboratory modules contain laboratory bench space with utility services, hoods, and equipment common to most molecular biology laboratory procedures. Each laboratory will have integral offices for faculty and support staff. The shared-use and general support facilities will consist of research resources characterized by the high cost of equipment, special environmental requirements, special technical service needs, and usage by various research teams. These 50 faculty positions will generate a total of 50 research teams, and based on a standard ratio of five research personnel per basic laboratory module, 100 modules requiring 57,000 net assignable square feet (NASF) will be required.

The resulting space requirements for shared-use and general facilities needed to support the laboratory and office space yields an additional 59,000 NASF. These facilities, totaling 116,000 NASF are expected to be designed into a building with an efficiency factor of 60%. This efficiency will yield a building envelope containing approximately 193,000 gross square feet. The total cost of the Molecular Biology Research Facility will be approximately \$48.2 million including planning funds appropriated in FY 1990, site development, construction and utilities (requested herein), and equipment to be requested in FY 1992.

The estimated space by U.S. Office of Education Room Type is summarized as follows:

<u>U.S.O.E. Room Types</u>	<u>NASF</u>
Non-Class Lab and Service	78,000
Office and Office Services	9,000
Seminar/Conference	3,000
Library and Study	2,000
Special Use	15,000
General Use	5,000
Supporting Facilities	4,000

Total	116,000

The building will be equipped with special utility services and features including:

- Recirculating, reverse-osmosis deionized water
- Emergency electric power
- Zoned heating, ventilation, and air-conditioning
- Fume hood exhaust manifolding
- Safety alarm systems
- Piped carbon dioxide and liquid nitrogen
- Laboratory gases
- Passenger and service drive
- Roof-top greenhouses

As described above, the proposed building, by providing a focus for molecular biology research, offers significant important advantages including: (1) interdisciplinary, campus-wide interactions among faculty, (2) expansion of molecular biology research into new departments, (3) improved faculty recruitment and retention, (4) expanded educational opportunities, (5) visibility to the outside community, and (6) enhanced University-industrial relations. At the national level, the proposed building will allow the University to compete with other institutions in the development of centers of excellence in molecular biology research. The highest quality researchers and students will be concentrated in these centers, and the universities and regions that have developed such centers will benefit academically and economically. Given a new building for molecular biology, the University of Illinois at Chicago is well positioned to develop as a major center of excellence in this increasingly important field of research.

REGULAR CAPITAL PROJECTS

FY 1991 REGULAR CAPITAL PROJECTS
CHICAGO CAMPUS

Core Campus Revitalization (\$4,300,000)

The University of Illinois at Chicago Circle, now the east side of the University of Illinois at Chicago campus, held its first classes in February, 1965. The focal point of the campus was designed and constructed as a great court situated above a lecture center and located between the Chicago Circle Center and the Library. The entire Court, a 135,000 square foot area was constructed of granite and pre-cast concrete and is slightly elevated from the walkway. The elevated areas at the corners of the Court are the roofs of the four lecture hall buildings in the Lecture Center beneath the Court. The Lecture Center is connected at the Court with most major campus buildings. This core area encompassing the Court and the Lecture Center is a major crossroads for pedestrians on the Chicago campus, a center for campus activities, and a central focal point for the campus itself. It is vitally important that this highly visible area be inviting and attractive for University students, faculty and visitors.

Heavy pedestrian traffic and deferred maintenance have led to a deteriorated area suffering from inadequate drainage, poor lighting, water leakage, and dirty surfaces. The decayed state of the campus core has contributed to a dark, inhospitable, and unsafe atmosphere. It is critical to stop the deterioration in this prominent area and create an appealing environment attractive to students, visitors, potential students, faculty and staff.

The proposed project encompassing the Court and the Lecture Center will include correcting inadequate exterior drainage, removing existing asphalt pavement, installing new paving materials, installing improved lighting, replacing draperies in the lecture halls, cleaning of concrete and glass surfaces, correcting roof and walkway leakage over the Lecture Center, painting trim and doors, and complying with handrail and other applicable codes. This project will be integrated into the total campus master plan which is currently underway.

The estimated cost of this major remodeling project is \$4,300,000.

Instructional Space Addition - AAB - Planning (\$832,600)

The College of Architecture, Art and Urban Planning (AAUP) has an established reputation for outstanding academic programs. For example, the Department of History of Architecture and Art is currently one of the largest and most diverse such programs for undergraduates in the nation. The department includes faculty with expertise in film, photography, and design. The School of Urban Planning and Policy is officially recognized by the American Planning Association and currently maintains a distinguished and productive faculty. In fact, annual expenditures for the School's research have grown from \$316,000 in 1984 to \$634,000 in 1986. Yet, despite its progress and outstanding academic programs, the College continues to lack adequate physical facilities.

The Architecture and Art Building was designed to be completed in two distinct phases. Based on the original design, the second phase of the building construction would account for 60% of the total required space and would include faculty offices, seminar rooms and classrooms, a resource center and gallery, and additional instructional laboratory space. However, the second phase was never implemented. One result of not initiating the second phase of construction has been the dispersal of the College's units to six different campus locations, including leased space. Some of the College's units have been moved as many as six times in the last 20 years.

The current lack of proximity between units makes it difficult to operate joint programs that require close faculty collaboration. Failure to address the problem will create more acute problems in the future, especially as programs in Architecture, Urban Planning, and affiliated centers become more interdisciplinary.

Furthermore, there are now major graduate programs in Architecture and Art and Design which were not part of the original curricula. There is also a new graduate program in the History of Architecture and Art. In 1977, the College of Architecture and Art and the College of Urban Sciences merged to form the current College of Architecture, Art and Urban Planning. The current College also includes the Center for Urban Economic Development and the Nathalie Voorhees Center for Neighborhood and Community Improvement. No additional space was acquired to house these new programs

however. At present, there are 62 full-time and 50 adjunct faculty in Architecture and Art, and a total of 20 faculty offices. Seminar and teaching assistant spaces are non-existent.

The proposed Architecture and Art Building Additions will help provide the space required to accommodate the College's programs and will relocate the College's dispersed faculty, students, and administration from six different locations to two campus locations. The proposed building additions will satisfy the College's most urgent space needs and help to promote greater program efficiency and effectiveness for AAUP.

The proposed Architecture and Art Building Additions will provide 41,200 NASF of offices, classrooms, laboratories, and special use space. Some portion of the existing 23,000 square feet of space AAUP now uses in the Behavioral Sciences Building, Henry Hall, and University Hall will become available to existing units where there are also critical space shortages. The 6,600 square feet of leased space will also be vacated.

The new additions will be added to the north and south of the existing Architecture and Art Building at locations which are adjacent to existing horizontal and vertical circulation and where provisions were made for additions in the original building planning and construction. Funds for construction of these additions will be requested the following year.

SES Building Addition - Planning (\$1,625,000)

The Science and Engineering South Building was constructed as a research, classroom, cafeteria, and library building for the physical sciences departments of the College of Liberal Arts and Sciences, i.e., Biological Sciences, Chemistry, Geological Sciences and Physics. The existing facility was planned to initiate faculty research and graduate studies, and to accommodate a building addition to allow for research expansion in the future.

Analysis of research expenditures in the physical sciences indicates a need for approximately 12,000-15,000 square feet of office and research space for each \$1 million of annual research expenditures. If these departments double their FY 1986 expenditures within the next ten years, they will require approximately 84,000-105,000 NASF of space to do so. These departments project an increase in faculty of about 25% over the next

ten years. The campus emphasis on research will be reflected in additional positions supported by sponsored research funds. New and replacement positions will be filled by research productive faculty and non-tenure track research staff and graduate students. Over the past twelve years, graduate enrollments in these departments have grown five-fold to more than 500 students and research expenditures have grown to more than \$7 million a year with potential for much higher levels of grant support. Most of this growth has been achieved through conversion of undergraduate teaching space to office and research space. These departments have now dissipated these options and now must look to new space to pursue expanding research productivity.

The most feasible resolution to this space need is construction of an addition to the Science and Engineering South Building. This construction will provide 100,000 NASF of research laboratory and office space.

Science and Engineering Library - Planning (\$1,500,000)

UIC has two major library facilities, the Library of the Health Sciences (89,766 NASF) and the East Campus Main Library Building (177,328 NASF). The Library of the Health Sciences is well-suited to the needs of its users and has sufficient capacity to accommodate anticipated growth for five to ten years. However, UIC's East Campus library facilities have serious deficiencies that must be corrected in order to support the research and teaching missions of the campus.

The East Campus Main Library Building was originally designed to serve the needs of undergraduate commuter students. It is totally inadequate for the needs of researchers. Deficiencies include substandard aisle spacing, inadequate stack space, improper design for access by handicapped users, and student and faculty reading space deficiencies. Conservative space requirement analyses show that, at the current rate of collection development, the space needs of the library will exceed available space by 62,000 NASF in FY 1990, and that this deficiency will reach 100,000 NASF by the year 2000. Some estimates indicate that almost 200,000 NASF of additional space will be required for library functions to accommodate growth past the turn of the century.

Math, Science, and Art and Architecture collections are presently housed in separate facilities because of space shortages, and significant portions of the library's collections are held in inaccessible remote storage locations. Interim measures to provide additional space have included the securing of off-site compact storage space, reclamation of space previously assigned to other units, and remodeling of the existing library, but these are only stop-gap solutions.

The proposed facility would be designed as a graduate research library emphasizing science and engineering collections, and would directly support research and teaching in the physical sciences and engineering. Enhancement of library support for these activities is essential to the maintenance of UIC's competitive position as a Research I institution. Current and prospective faculty have indicated serious dissatisfaction with the level of library support now offered by the campus, and faculty recruitment efforts will be impaired if the current situation is not corrected.

The proposed facility would create a focus for science, engineering, and technology development activities on the campus. Location of the facility in proximity to the present Science and Engineering Laboratories, Science and Engineering Offices, and Science and Engineering South Buildings would create a strong core of facilities to serve the needs of students, faculty and researchers in these areas.

The proposed facility would be constructed in two phases. Phase I will construct approximately 100,000 NASF of stack, reader, and service spaces. The estimated cost of Phase I is \$38,000,000, including \$8,000,000 for moveable equipment.

Associated Health Professions Building Remodeling (\$8,604,700)

The College of Associated Health Professions is currently located in several buildings which span across a three block area. Communication barriers among faculty, students, and administrators exists on both inter- and intra-departmental levels. Relocating these departments to one building would facilitate greater interdisciplinary collaboration in research and in service. In addition, consolidation would create a more efficient use of space in the scheduling of classes and conferences, more

efficient use of research and teaching equipment, and a substantial reduction in faculty and staff travel time between locations.

The College of Associated Health Professions Building (formerly the 1919 West Taylor Street Building) experienced a decline in use for patient care programs during the late 1970's, and therefore provides a feasible site for the College of Associated Health Profession's expansion and consolidation.

This building is an "H" shaped eight story building, constructed as a tuberculosis hospital in the early 1950's. The building has approximately 183,000 GSF and 107,500 NASF of space. Since the building was first acquired in June of 1975, the need for a major upgrade has been evident. Some academic projects proposed for this facility have been postponed due to inadequate electrical power, while others have been conducted only through the aid of innovative logistical maneuverings. The current phase of the building upgrade represents a continuing effort to correct facility deficiencies and provide useable facilities for the College of Associated Health Professions.

The Associated Health Professions Building houses a variety of campus programs dependent on this building remodeling. These programs include the College of Associated Health Professions, the Family Practice Department and Clinic, the Child Care Center, the Early Outreach Program, the Obstetrics Clinic, and the Division of Services for Crippled Children.

Many of the building occupants require more adequate electric power, air-conditioning, window replacement, and general building improvements such as code corrections and elevator renovation. The College of Associated Health Professions also requires space renovation to accommodate the relocation of two additional departments and development of its most promising research endeavors: metabolism, computerized anatomical imaging, collaborative research in physical therapy and nutrition, and kinesiology.

Initial upgrading and modernization of electrical services in the building began with the allocation of funds in FY 1979 and FY 1980. Completion of this modernization has provided adequate electrical service for future needs to most floors. Current and future building occupants will be unable to fully utilize the newly provided electrical services or to service new program requirements without the installation of electrical

control panels and supplemental wiring. A project approved in FY 1987 will distribute electrical power on floors two, three, and four to accommodate the needs of the Biocommunications Arts, Occupational Therapy, and Physical Therapy departments. A second project approved for funding in FY 1987 will remodel part of the sixth floor for the Department of Nutrition and Medical Dietetics.

The overall project proposed for FY 1991 is the first of two phases required to restore and upgrade the building for permanent use. This phase addresses three distinct components:

1. Electrical power distribution;
2. Installation and distribution of a central air-conditioning systems; and
3. Window replacement and tuck-pointing.

The second phase of work will address elevator renovation, code corrections, and the balance of the electrical distribution and window replacement work.

College of Business Administration Building (CBA) - Planning (\$1,215,000)

The College of Business Administration at the Chicago campus was established as a business education program in the post-World War II period at Navy Pier in Chicago. The program was relocated to the Chicago Circle Campus in 1965, and achieved its college status thereafter. Thus, the College has a 40-year history of development during which it has brought together a distinguished faculty in accounting, economics, finance, management, marketing, information systems, and business administration. Recent years have also seen the development of its graduate studies and research programs. Assessing its role as a major public research university's business college in urban Chicago, a regional, national and international center of commerce and industry, the CBA is addressing the growing importance of business and economics in social institutions.

The College is also adopting significant research and graduate training initiatives to expand its potential as a productive participant in the revitalization and growth of the Illinois economy. Specifically, the CBA is developing research programs in the areas of commodities and

futures trading and theoretical and applied approaches to critical issues and problems, with particular emphasis on those factors which influence the economic and social fabric of the State of Illinois. These expanded research programs will have a direct impact upon the instructional programs within the College at both the advanced undergraduate and graduate levels. Special efforts will also be made to disseminate the knowledge developed in these programs to the broader public through publications, lectures, seminars and workshops, as well as direct communication with government organizations, private firms, groups, and individuals through executive training programs.

The College of Business Administration is comprised of six academic departments, a number of research programs, and undergraduate and graduate degree programs with 3,238 students and 108 FTE academic staff in FY 1987. The graduate program has grown from 21 master's degree students in FY 1975, to 522 master's and 43 Ph.D. students in FY 1986 while undergraduate enrollments have remained stable.

These developments have occurred in the absence of facility resources to support the growth of the College. The College has progressed over the past 10 to 15 years in anticipation of new and expanded facility resources. There are many program activities that cannot be considered for implementation or growth at this time due to a lack of space. Faculty office and research space is now being acquired by conversion of conference rooms and by leasing of commercial space. The College occupies four floors in University Hall and one floor in a converted classroom building that totals approximately 26,000 NASF.

Based on comparative data from other Big Ten institutions, a business school with this number of undergraduate majors, graduate students, credit hours, and faculty requires a 133,000 GSF facility to accommodate the College's requirements.

Pharmacy Building Remodeling - Phase II (\$1,856,000)

Since the Pharmacy Building was constructed, there have been major changes in the programs of the College of Pharmacy. A new pharmacy curriculum, the Doctor of Pharmacy degree program, was approved for implementation in FY 1984. The new Pharm.D curriculum is a six-year

program composed of two years of pre-pharmacy and four years of professional education. Previously, the faculty of the College taught several basic science courses (e.g., physics, organic chemistry, history, anatomy, etc.); whereas, in the new curriculum, these courses are a component of the pre-pharmacy requirements available at the undergraduate level. The undergraduate curriculum has undergone significant changes with much less emphasis on wet laboratory instruction and greater emphasis on the social, behavioral/administrative, and biological sciences, and the professional practice of pharmacy. As a result of this major curricular change and the corresponding reduction in class size, there is no longer a need for the large laboratories designed in the early 1950's. Some of these laboratories should be modernized into smaller laboratories for computer applications, faculty offices, and laboratories for research. With the increased emphasis on high technology research among its faculty, the conversion of unneeded undergraduate laboratory space into areas where high technology research can be conducted by students and faculty is a high priority goal of the College.

Another high priority goal of the College is to increase the level of research funding from external sources including pharmaceutical corporations and international organizations such as the World Health Organization. Completion of this capital improvement project will also make the College more competitive in attracting research project money sponsored by the National Institutes of Health, the National Cancer Institute, and the National Science Foundation.

The College of Pharmacy faculty and administration have recently prepared a space plan for all College of Pharmacy space. This space plan is incorporated in a 4-phase redevelopment and renovation program for this building.

- Phase I is comprised of the renovation of the building HVAC systems, the Pharmacy Practice Simulation Laboratory, and the Computer Applications and Robotics Laboratory, all funded in FY 1986.
- Phase II of the plan, requested for FY 1991 and described herein, addresses the highest priority office and research laboratory needs.
- Phase III, scheduled for FY 1992, will address the need for new flexible student laboratories and classroom space.

- Phase IV, scheduled for FY 1993, will address lecture room and office renovations in the basement and on the first floor.

The projects described below are a direct result of this study and have the highest priority. Four of the areas (rooms 237, 304, 346 and 404) are large undergraduate laboratories which need to be remodeled as faculty office and research space. Rooms 501-510 are graduate research laboratories which need to be modernized for conducting high technology research. Room 133, a former manufacturing pharmacy area, is to be remodeled for offices and research laboratories for the Clinical Pharmacokinetics Laboratory. Room 237 will be remodeled for the Department of Pharmacy Practice. Room 304 will be remodeled for the Program for Collaborative Research in the Pharmaceutical Sciences. Room 346 will be remodeled for the Department of Pharmacodynamics, and room 404 will be remodeled for the Department of Medicinal Chemistry and Pharmacognosy. A total of 16,800 NASF is involved in this remodeling phase.

The College of Pharmacy Space Management Plan Report shows that the College has a deficiency of approximately 9,000 square feet of office and research space, but a corresponding excess of 20,000 square feet of teaching laboratory space. This office and research space deficiency is expected to grow considerably as new research initiatives are implemented. The conversion of teaching areas to office and research space will alleviate current deficiencies and will position the College of Pharmacy for leadership in related biotechnology research.

Alumni Hall Remodeling - Phase III (\$4,500,000)

Alumni Hall, formerly a garment manufacturing and wholesale warehouse, was purchased in 1980 with endowment funds donated to the University. The building was constructed in two phases, the South Wing in 1910 and the North Wing in 1920. The building contains a total of 154,000 GSF and occupies a strategic site at the north end of campus, immediately adjacent to the major train and expressway networks into Chicago.

Immediately following its acquisition, some endowment funds and locally-held funds were used to initiate remodeling to provide office space for Intercollegiate Athletics, the Alumni Association, the Foundation Office, the Office for Capital Programs, the Center for Urban Transpor-

tation, the Center for Law and Justice, the Survey Research Laboratory, and the Energy Resources Center. A large part of the south portion of the building has been serving as a temporary warehouse for the Business Office Stores operations, and most of the north portion of the building as office, classroom and studio space for the Art and Design programs of the College of Architecture, Art and Urban Planning. Approximately \$3 million was invested in the purchase and early renovation. In FY 1985, an energy conservation project funded a new chiller to supply chilled water to the existing air-conditioning systems.

Early plans for the Chicago campus included provision of a student services building that was never constructed. For more than 20 years the campus has endured the hardship of dispersed activities while attempting to support a student body in need of extraordinary support services. Many UIC students are on campus only long enough to attend classes. More than three-fourths of the students are employed while attending school, and nearly one-fourth attend classes in the evening. As the number of part-time students has grown, it has become increasingly necessary to create opportunities for students to register for classes, pay tuition, apply for financial aid, and obtain information without having to move from one end of the campus to the other.

In FY 1986, a major renovation project (\$1.15 million) was approved to provide for the relocation of the Office of Admissions and Records and the Office of School and College Relations. This project is the first phase of a major renovation plan to convert the south wing of Alumni Hall to a student services facility to accommodate Student Placement Services, Dean of Students, Student Financial Aid, Student Employment, Student Legal Services, Student Development Services, Foreign Student and Staff Affairs, Student Accounts Receivable, the Alumni Career Center, and other student service programs. Locating student services staff in one building will create a new student traffic "center" for the campus, thereby enhancing UIC's image in the community. More importantly, it will allow students to obtain assistance and information regarding admissions, student records, financial aid policies, and student development programs without having to traverse the campus during busy periods and evening hours.

To plan effectively for the renovation, the architectural firm of O'Donnel, Wicklund and Pigozzi was employed to conduct a total building study and develop a "Master Building Renovation Plan." The study, undertaken cooperatively with the Office for Capital Programs, the Physical Plant Department, building users, the College of Architecture, Art and Urban Planning, and the campus administration, identified building space use plans, code requirements, building service needs, and building infrastructure requirements.

Central to the Phase II building renovation plan, appropriated in FY 1990, is construction of a central service and transportation core; installation of new heating, ventilation and air-conditioning systems; electrical upgrading; code corrections; window replacement; and structural repairs. These improvements are essential support to the space remodeling proposed for Phase III.

The Phase III renovation will provide funds to complete the upgrading of all building systems, the remodeling of the existing facility and the consolidating of all student service units in Alumni Hall.

Upon completion of the consolidation plan, a total of approximately 40,000 square feet of existing office space will be vacated by student affairs functions for reassignment to the Colleges of Engineering, Liberal Arts and Sciences, Business Administration, the Library, and the campus administration. These space transfers are a critical element of the campus master space plan.

College of Medicine West Building Remodeling (\$8,948,000)

The Basic Medical Sciences departments, which have occupied space primarily in the College of Medicine West for many years, have been "land-locked" with little or no opportunities for expansion. Internal remodeling of space vacated by other campus units has constituted the only feasible method of providing new space. Although researchers in the medical sciences departments are well-funded and highly motivated, a major deficiency facing the departments is the lack of adequate, modern facilities.

The department heads of the Basic Medical Sciences departments have identified a number of important research goals which they hope to achieve

during the next five years. For example, the Department of Biological Chemistry plans to develop data which help to explain how the primary nucleotide sequence can signal the intricate phases of differentiation seen with embryonic organogenesis. Special facilities required to conduct the department's planned research are presently unavailable to the department. If the Basic Medical Sciences departments remain unable to satisfy their own basic research requirements, then the College will be unable to attract new, young, and vigorous faculty/researchers and the resources they develop or bring with them.

To build the College of Medicine's Basic Medical Sciences departments and to strengthen its research efforts, new or remodeled facilities are required. Since the remodeling of the College of Medicine East Building in the mid and late 1970's, the research productivity of faculty and researchers who occupy the remodeled space has increased dramatically. Thus, the remodeling of the College of Medicine East Building played a major role in facilitating an increase in the research productivity of the College of Medicine. Furthermore, as a result of increased productivity within the College, the reputations of faculty, researchers, and the University of Illinois have all been favorably promoted.

The College of Medicine West facility requires a major program of renovation, remodeling, and upgrading. The program must involve a major effort in which first the building systems (HVAC, utilities, etc.) are upgraded, and the structure and building enclosure are restored. Interior space remodeling should be considered as a second phase of the project.

The College of Medicine West Tower (CMW) is comprised of two buildings (908 and 909) built in 1925 and 1930, respectively. The buildings contain 229,200 GSF and 121,800 NASF of space and are located on the Health Sciences Center campus, at Polk and Wolcott Streets. The buildings were constructed as academic and library facilities for the Colleges of Medicine and Dentistry.

The buildings are currently being used by the College of Medicine Administration, and by six departments of the College (Anatomy, Biological Chemistry, Pathology, Pharmacology, Physiology and Biophysics, and Preventive Medicine) for faculty offices, instructional programs. and

research activities. The remodeled space will continue to be used, although much more efficiently, by the same departments.

The campus commissioned an architectural and engineering firm, John Victor Frega and Associates, to develop a comprehensive plan for renovation. This plan, which was completed and published in February 1987 and proposes a multi phased renovation project, is the basis of this FY 1991 request. The multiple-phased project is estimated to cost approximately \$40 million.

The building systems must be converted to a variable air volume central heating and cooling operation; new electrical circuitry must be provided; a new plastic pipe and treated water system must be installed; and the existing manual elevators require automation. The initial phase of the project will upgrade mechanical services and utilities for each floor of the building including heating, air-conditioning equipment, special exhaust, laboratory utilities systems, water and waste systems, and electrical power. Local floor distributions of the systems will be accomplished as the individual floors are remodeled.

FY 1991 REGULAR CAPITAL PROJECTS
URBANA-CHAMPAIGN CAMPUS

Utility Infrastructure Upgrade (\$4,230,000)

The completion of numerous Build Illinois remodeling projects, the recent addition of major new buildings, and the addition of new equipment with increased power requirements have combined to strain the limits of the existing electrical, chilled water, sanitary sewer, water, and steam distribution systems of the Urbana-Champaign campus. To support current facility and program growth, it is essential that the fourth phase of upgrading the utility infrastructure at the Urbana-Champaign campus be completed to provide the improvements required to serve the campus' expanded utility needs.

Phase I of this project, funded in FY 1987, provided funds for the planning and construction of a north campus utility building to supply electrical, steam, and chilled water distribution for three new north campus projects: the Beckman Institute, the Digital Computer Laboratory Addition, and the Microelectronics Center. Phase I further provided planning funds for steam and condensate line modifications to ensure adequate capacity to supply the north and south campus steam needs. Finally, Phase I provided planning for a new electrical distribution center and the installation of a feeder line to the proposed distribution center to supply the electrical needs of the south campus area where the new Plant and Animal Biotechnology Laboratory, the Plant Sciences Laboratory (Greenhouse), and the Animal Sciences Laboratory Addition are to be constructed.

Phase II, appropriated for FY 1988, provided funds for steam line modifications, construction of an electrical distribution center, construction of a chilled water line cross-connection between two existing air-conditioning centers to share peak loads, and finally, planning for a new sewer line to support the new construction underway on the south campus.

Phase III, appropriated for FY 1989, provided funds to redistribute electrical loads on the south campus to the new electrical distribution center, complete steam line extensions for the north campus, construct a new sewer line on the south campus, install a new water line on the south campus, and plan an expansion of the Library Air-Conditioning Center.

Phase IV, requested in FY 1991, involves the following components: electrical, \$535,000; chilled water, \$2,130,000; water system improvements, \$180,000; and steam distribution, \$1,385,000. The total estimated cost for the fourth phase project is \$4,230,000.

The electrical portion of the project, estimated to cost \$535,000, involves the following:

- replacement of a section of paper-insulated 15 KV cable in the area of the Armory which has proven to be subject to premature failure;
- relocation and replacement of Load Center 33 (at the Library) which is both substandard and dangerous.

The chilled water portion of this project will expand the campus chilled water capacity to serve the new buildings currently on the Library Air-Conditioning Center. The FY 1988 Utility Infrastructure project to interconnect the Student-Staff Air-Conditioning Center with the Library Air-Conditioning Center will solve the existing overloading problem, but allows no excess capacity for anticipated needs such as air-conditioning in David Kinley Hall and Bevier Hall, or for converting various stand-alone building systems to the Library Air-Conditioning Center as the various buildings' chilling equipment fails. The estimated construction cost will be \$2,130,000. The FY 1989 request funded the \$150,000 planning portion of the project.

The water systems portion of this request involves two major components. The first involves capping two wells near the Beckman Institute as required by the Illinois Environmental Protection Agency. The second improvement involves connecting two dead-end water main loops near St. Mary's Road, which will increase water quality and the reliability of the water supply during an outage by enabling the isolation of the area being repaired. Additionally, in the event of a fire in the area served by the loops, the water pressure would be increased by the interconnection. The water systems portion of the project cost is estimated at \$180,000.

The steam portion of the project calls for replacement of an old and deteriorated section of tunnel and piping which is in a key area of the steam distribution system. The section of tunnel and piping to be replaced runs from the Animal Sciences Laboratory north to Smith Music Hall. Also, part of this project will include replacement of a section of high-pressure

steam line in the Mathews Avenue tunnel north of Smith Music Hall with a larger diameter line. The untimely failure of this steam line would interrupt the steam supply in six major buildings. The estimated cost of these improvements is \$1,385,000.

In summary, this request is needed to fully maximize the increased capacity potential provided in the first three phases. These improvements will have a long-term positive effect upon the expanding research programs of the Urbana-Champaign campus by providing basic utility capacities to implement these programs, which will benefit the economy of the area and the State of Illinois.

FY 1991 Critical Equipment (\$3,750,000)

This critical equipment request addresses the equipment needs of two buildings on the Urbana-Champaign campus; the Plant and Animal Biotechnology Laboratory and the Environmental Sciences Building Remodeling - Phase II. Both of these facilities will be available for occupation and use in FY 1991.

The first part of this request relates to and supports the completion of the federally funded Plant and Animal Biotechnology Laboratory. The major portion of the equipment to be purchased will be needed for the office and laboratory animal areas, with limited equipment purchases for the research laboratory areas. Highly specialized research equipment required for individual research projects will be secured through specific research grants or funded from Federal or private sources.

What remains, therefore, is to provide the Plant and Animal Biotechnology facility with the basic office equipment and laboratory support service equipment that normally cannot be funded through grants or gifts. An estimated \$3 million is needed for this purpose. This moveable equipment purchase will allow the teaching and office staff to optimally utilize the newly constructed space.

The final part of this request involves the purchase of relatively expensive equipment items needed to fully utilize the remodeled space on the first three floors of the Environmental Sciences Building for the federally funded Soybean Research Center. The equipment to be purchased will include items such as an ultra-centrifuge, plant growth chambers,

laminar flow hoods, a multi-channel analyzer, a liquid scintillation system, and office furniture. This \$750,000 equipment request supports the federally funded remodeling project planned with FY 1989 funds and funded with FY 1990 funds. It is anticipated that this facility will be ready for occupancy in the spring of 1991.

English Building Remodeling, Phase III (\$3,850,000)

In 1975 an architect was hired and a master plan was developed to convert the English Building to its new and permanent use. The plan that was developed calls for the remodeling of the English Building in four phases at a total cost of \$10.4 million. When the job is completed, the Department of English will have all new facilities within the original exterior walls at a cost of 40-50% less than the cost of a new facility of the same size.

In total, 61,940 NASF (118,140 GSF) will undergo remodeling. The entire program involves the addition of a new heating and air-conditioning system for the building; construction of a new fire-rated stair; enclosing two existing stairs; installation of an elevator, additional rest rooms, new plumbing, and new structural flooring in the west half of the building; as well as the typical partitioning, lighting, and ceiling improvements associated with office and classroom remodeling. To date, only the first two phases of the remodeling have been completed in the English Building. The unremodeled portion of this building is in deplorable condition because of extended delays in funding this important project.

The third phase of the work, which is currently proposed, involves the renovation of the northwest section of the building as well as the west center portion of the building on the first, second, and third floors. The remodeling will involve the installation of an elevator and the construction of new floors in the areas to be remodeled. A total of 22,500 NASF of space will be converted into office space and classrooms.

There will be an equipment request in FY 1992 to support this remodeling request.

FY 1991 Critical Remodeling (\$4,640,000)

This critical remodeling request represents several remodeling projects for which the Urbana-Champaign campus is requesting funds in FY 1991.

These smaller remodeling projects will renovate outmoded areas and make accessibility, safety, and ventilation improvements to various campus facilities.

Enclose Stairways - 3 Buildings (\$1,260,000)

This project would enclose open stairways in three buildings in order to improve safety conditions by minimizing the potential spread of smoke, fire, and accompanying toxic by-products throughout the building. A fire in a building's lower level with open stairways could quickly kill occupants of the upper floors. Most of the stairways in the Library, Gregory Hall, and Lincoln Hall are open. Considering the large number of persons who occupy these facilities and the value of contents housed, these buildings are potential fire disasters. To meet fire safety standards, these stairways need to be closed at every floor level.

Library - Fourth Floor Remodeling and Elevator Replacement (\$580,000)

The current arrangement of libraries on the fourth floor does not make efficient or effective use of the space available. In addition, existing walls are constructed of cellulose wall board over wood studs and steel support columns supporting the roof are not covered with fire retardant material; both violate current building and fire codes. By relocating the smaller libraries from the fourth floor to larger open areas on the second floor, the number of staff required to operate these units could be reduced. Library administrative and technical processing personnel would then be relocated into open landscaped office and work space on the fourth floor. Approximately 1/3 of the space (6948 NASF) on the fourth floor will be remodeled as a part of this project. The remodeling must be completed in various phases to allow for the relocation of staff and books around the construction area and to be able to keep the library areas open and usable by faculty, staff, and students.

The existing elevator located in the southern portion of the Library was installed in 1929. This request includes the replacement of this obsolete elevator, which is inadequate for paraplegics to operate as well as difficult to maintain. The new elevator car will be installed with selective--collective controls, an automatic leveling system, and power door controls for ease of operation by paraplegics. Additional funds will be requested in future areas to complete additional phases of remodeling on the fourth floor.

Davenport Hall - Complete Second Floor East Wing (\$750,000)

This project is the final phase of a series of Build Illinois projects designed to renovate the entire east wing of Davenport Hall for the Schools of Life and Chemical Sciences.

The School of Chemical Sciences is currently accommodated in space which has become outdated and is not suitable for future

research. This final phase of the project involves completing the remaining south portion of the second floor of Davenport Hall. This phase is vital to the overall function of both Schools because it will provide the necessary interconnects of all mechanical and electrical systems in operation in the east wing.

Mechanical Engineering Bldg.-Automotive Systems Laboratory (\$450,000)

This project will renovate an outmoded area that is currently used for undergraduate and graduate teaching and research in automotive systems. Safety of the occupants and security of the expensive instrumentation and equipment needed to conduct these experiments is of prime concern. The remodeling will provide twelve small laboratory test cells each consisting of an experimentation area and a separate but adjacent area for controls and instrumentation. These test cells will provide a safe environment for students and faculty during experiments and a secure area for the required instruments and equipment. In addition, the renovation will provide four small laboratories for investigating related fundamental phenomena; seven offices for graduate students and/or faculty; a work area for the development and assembly of experimental hardware; a vehicle chassis dynamometer for automotive systems experiments; a fire resistant fuel storage area; a central laboratory computer system area; a class meeting/display area; and storage areas.

Plaza Deck Replacement Phase I - Undergraduate Library (\$650,000)

This project will provide a new roof surface, the replacement of brick pavers, and improvements to the drainage system at the Undergraduate Library. The roof and plaza deck pavers have been a continuing maintenance problem since the building opened in 1969. The roof has always leaked and is getting progressively worse. If improvements are delayed much longer, continued water infiltration will deteriorate the structural integrity of the building and result in a much larger and more costly remodeling project. Interim brick paver repairs are presently required on an annual basis. The total plaza deck replacement project is expected to be completed in two phases with a request for the final phase in FY 1992.

HVAC Improvements - Phase II - Armory (\$450,000)

This project is designed to improve ventilation and cooling to interior classrooms and offices on the west end of the Armory. Improvements will include removing room fan units, enlarging ducts to chases in each room, and installing large supply fans on the mezzanine to provide adequate air movement to these interior rooms. Also included is the upgrading of temperature controls throughout the entire building. The existing system is so noisy, that in many cases, the room fans must be shut off during class sessions for the students to be able to hear the instructor.

Bevier Hall - Elevator and Tunnel Installation (\$500,000)

This project is a request for funds to install an elevator at the south end of Bevier Hall and an underground tunnel between Bevier Hall

and the new federally funded Plant and Animal Biotechnology Laboratory (PABL). The new elevator will be used to carry animals and people to the upper floors of Bevier Hall from a new underground tunnel system which will interconnect Bevier Hall, Turner Hall, the Animal Sciences Laboratory, and the Plant and Animal Biotechnology Laboratory. The underground tunnel system is being constructed as part of the PABL construction project.

Instead of remodeling animal rooms in both Bevier Hall and the Animal Sciences Laboratory, new animal rooms that meet Federal guidelines for ventilation and sanitation will be constructed in the basement of PABL. Animals will then be transferred to various buildings by interconnecting tunnels and through the use of a new elevator at the south end of the building to various research laboratories on the third and fourth floors of Bevier Hall.

Electrical Engineering Research Laboratory - Planning (\$1,530,000)

This proposed building will give the Urbana-Champaign campus an opportunity to develop an environment in which overlapping and mutually compatible program strengths can be enhanced. The Departments of Computer Science, Electrical and Computer Engineering, and selected units in the multidisciplinary Coordinated Science Laboratory span the spectrum from theory to application. In common facilities, these programs have greater potential to generate new endeavors than do the same units operating alone. While this facility will primarily serve the research missions of the Electrical and Computer Engineering and the Coordinated Science Laboratory programs, it will also improve and expand graduate education and enhance specialized upper-level undergraduate programs and projects.

This building will serve as a programmatic link from the Beckman Institute to the current Everitt Laboratory of Electrical and Computer Engineering for scientists and engineers in the electrical and computer engineering fields. Along with the Beckman Institute, the Micro-electronics Laboratory, the Computer and Systems Research Laboratory and the Digital Computer Laboratory Addition, this building will provide the modern facilities needed to reinforce and enhance the campus' reputation in electrical and computer engineering while forming the foundation for lasting preeminence in these fields.

Currently, the programs to be included in this facility have a space deficit of 110,000 NASF, which is further exacerbated by the poor quality of the existing space. Upon completion of this building, because of their antiquated and deteriorated state, the Electrical Engineering Annex (11,300

NASF), the Electrical Engineering Research Laboratory (29,600 NASF), and the Gaseous Electronics Laboratory (8,800 NASF) will be razed to provide areas for more suitable uses. The space vacated in the Coordinated Science Laboratory (23,900 NASF) will be reassigned to the Department of Physics and the Materials Research Laboratory, which in turn will solve some of the space problems of those units. The building, as proposed, will act largely as a vehicle to relocate programs of mutual interest and upgrade the space for programs requiring more sophisticated space.

This project is programmed to contain the following types and amounts of space:

<u>Room Type and USOE Code</u>	<u>NASF</u>
Office (310, 315, 350)	17,650
Non-Class Laboratory (250, 255)	57,350
Storage (730)	5,000
TOTAL	80,000

Construction of this building is estimated to cost approximately \$36 million including funds for planning and moveable equipment. Funds for construction will be requested in FY 1992.

North Campus Site Improvements (\$1,250,000)

This request is for site and landscaping improvements made necessary because of recent construction on the north and south campus areas. The four areas of major concern are the north campus between University Avenue and Springfield Avenue and between Green Street and Springfield Avenue, the south campus, and overall campus site improvements. The main focus of this request involves the University Avenue to Springfield Avenue area.

The North Campus - University Avenue to Springfield Avenue portion of this request will support the development and implementation of site improvements within a 26-acre unimproved area on the north campus. Currently this area houses the Hydrosystems Laboratory, Newmark Laboratory, Digital Computer Laboratory, and Kenney Gymnasium and Annex. By May of 1991, over 536,000 GSF of new buildings will be completed within this area, including the Beckman Institute, the Microelectronics Center, the Digital Computer Laboratory Addition, and the Central Chiller.

Total site improvements for this area are estimated to cost \$4,300,000. Of this amount, \$1,110,000 will be funded by the Beckman project for the area north of Clark Street, the Beckman Oval, and the

pedestrian allee leading from Springfield Avenue to the Oval. This request will completely landscape the Main Street and Stoughton Street pedestrian corridors as well as the Wright Street, Springfield Avenue, and Mathews Avenue street edges to make this area an integral part of the "Beckman Block." The project scope includes drainage, sidewalks, bike paths, lighting, landscaping, and site furnishings.

Campus Police Building (\$1,769,000)

The Campus Police Building will create new facilities for the Police Department. The building which the Police Department is currently using for its headquarters is an Army barracks type building constructed in 1945. The building is expensive to maintain and is grossly inadequate for police operation, both in the quality and the configuration of the space. The effectiveness of the campus security force is greatly hampered by the lack of adequate space. In order to help alleviate the crowded space conditions, the Police Department was assigned space in the nearby Engineering Research Laboratory and a frame house at 1207 W. Springfield. The Engineering Research Laboratory space is primarily basement space which floods, experiences extreme temperature fluctuations, and is poorly arranged. The space at 1207 W. Springfield is used for investigative staff and evidence storage, and is not secure.

The new building will replace the inadequate facilities currently used by the Police Department, make way for the imminent razing of the old structure, and eliminate present efficiency and coordination problems caused by dispersed and inadequate quarters. Additionally, the relocation of the Police Department is becoming even more vital because the new North Campus Master Plan indicates that the existing Campus Police Station is on a portion of the site where the proposed Engineering Library is to be located.

The Campus Police Building is programmed to contain the following types and amounts of space:

<u>Room Type and USOE Code</u>	<u>NASF</u>
Office (310, 315, 350)	5,460
Lounge (650, 655)	1,030
Locker Rooms (690)	1,050
Storage (730)	950
Other Supporting Facilities (590)	310
TOTAL	8,800

Upon completion of this project, the existing Campus Police Station (2027 NASF) and 1207 W. Springfield (3618 NASF) will be vacated by the Police Department and razed. Additionally, the Police Department will vacate its presently assigned space in the Engineering Research Laboratory (1904 NASF), and that space will be reassigned for a more appropriate use.

Social Work Building - Planning (\$185,000)

The mission of the School of Social Work is to contribute--through research, teaching and quality professional education at various levels--to improving the adequacy, effectiveness, and efficiency of health and welfare services. The emphasis is on populations vulnerable to the effects of social change in a pluralistic society, such as the poor; the mentally or physically ill or disabled; children, youth and families; the aged; the unemployed; and the victims of discrimination. The School strives to generate and strengthen available resources, anticipate the consequences of change, adopt a proactive stance in dealing with societal concerns, collaborate in interdisciplinary approaches, utilize effective methods of organized response in health and welfare systems, and develop and disseminate new professional knowledge and skills.

The School offers degree programs at the bachelor's, master's, and doctoral levels. The School's accreditation was recently reaffirmed and it was noted that a degree from Illinois continues to command a high level of respect in the field. However, the Council on Social Work Education evaluation team identified the physical structure housing the School as a distinct weakness.

The School's current physical structure provides space for undergraduate, graduate, and doctoral student teaching in Social Work, as well as space for faculty research and special projects. Special project activities include grants and contracts with Federal and State agencies, a variety of computer projects, and conferences pertaining to the field of social work. The main facility is located at 1207 West Oregon in Urbana while the Special Projects Office is located at 1203 West Oregon. Combining these two separate units into one facility will greatly increase efficiency in communications and personal interactions.

Upon completion of this project, the building at 1207 W. Oregon (10,557 NASF) will be razed. The space vacated at 1203 W. Oregon (2,135 NASF) will be reassigned to other needy units.

This project is programmed to contain the following types and amounts of space:

<u>Room Type and USOE Code</u>	<u>NASF</u>
Classroom (110, 115)	2,750
Instructional Lab. (210, 215, 220)	1,800
Research Laboratory (250, 255)	790
Office (310, 315, 350)	9,205
Lounge (650, 660)	455
TOTAL	15,000

Construction of this building is estimated to cost approximately \$4 million including funds for planning and moveable equipment. Funds for construction will be requested in FY 1992.

English Building Remodeling, Phase IV Planning (\$480,000)

In 1975 an architect was hired and a master plan was developed to convert the English Building to its new and permanent use. The plan that was developed calls for remodeling the English Building in four phases at a total cost of \$10.4 million. When the job is completed, the Department of English will have all new facilities within the original exterior walls at a cost of 40-50% less than the cost of a new facility of the same size.

In total, 61,940 NASF (118,140 GSF) will undergo remodeling. The entire program involves the addition of a new heating and air conditioning system for the building; construction of a new fire-rated stair; enclosing two existing stairs; installation of an elevator, additional rest rooms and new plumbing installations; new structural flooring in the west half of the building; and the typical partitioning, lighting, and ceiling improvements associated with office and classroom space. To date, only the first two phases of the remodeling have been completed. The third phase, requested in the FY 1991 Capital Budget, will involve the renovation of the west center portion of the first, second, and third floors, the installation of an elevator, and the construction of new floors in the areas to be remodeled. The unremodeled portion of this building is in deplorable condition because of extended delays in funding this important project.

The fourth and final phase of the work, which is currently being proposed, involves planning the renovation of the east section of the building on all four floor levels. A total of 28,427 NASF of space will be converted into office space and classrooms. The renovation will also involve the reconfiguration of space on the south side of the third floor. The existing dormers on the interior court side of the corridor will be removed and six additional single occupant offices will be constructed with a single dormer type roof. This modest gain of space (approximately 700 NASF) would greatly improve the efficiency and usability of the third floor corridor which is the only single loaded corridor in the building. The structural consideration of this addition is relatively simple.

The total planning cost includes working drawings. It is anticipated that construction funds will be requested for FY 1992 with an equipment request in FY 1993.

Mechanical Engineering Laboratory Remodeling (\$3,900,000)

The Mechanical Engineering Laboratory is a building of approximately 48,000 NASF first constructed in 1905, with an addition in 1917. The continued use of the building was in question until the recent North Campus Master Plan prepared by Sasaki & Associates was completed. Sasaki & Associates recommended that this building be retained, forming the east edge of the Engineering Quadrangle. In that location it will serve the needs of the Mechanical Engineering Department as well as other departments, such as Aeronautical and Astronautical Engineering, which are related in scope and educational content.

This building was originally built as a part of the University Physical Plant and served in that capacity until the early 1950's. Because of the original construction and use of the building, it requires major remodeling to bring it up to modern standards for laboratory and office space. The renovation would include either complete roof replacement or a major renovation of the existing roof. The basic structure of the building is acceptable but the interior space needs upgrading. The internal remodeling would realign the floor levels of the building making them more accessible and useful for instructional laboratories, research laboratories, and

office space. A new central heating and cooling system for the entire building would also be required.

The programs currently envisioned to occupy the space are in the fields of thermal sciences, thermal dynamics, and air and water flow research as well as other related research fields. It is anticipated that additional laboratories will be developed. These would be set up in approximately 780 to 900 square feet modules with central utility chases serving the rooms. This approach allows constructing rooms for current use with the ability to easily adapt them to future uses.

The current plan creates a lower office and wet laboratory level with at least one area being devoted to a high ceiling laboratory (two stories high) for use in fluid flows research. The second level will have 12 office/laboratories of less than 300 square feet each, four office/laboratories at 360 square feet, and two office/laboratories at 600 square feet. The proposed use would meet the current needs and requirements of the Mechanical Engineering staff with allowances for anticipated future growth. When the remodeling of this facility is completed, it will serve the Mechanical and Industrial Engineering Department's research needs in thermal sciences, thermal systems, and fluid and air flow research.

There will be an equipment request in FY 1992 to support this remodeling request.

Main Library Remodeling - Planning (\$190,000)

This project involves planning to remodel the east portion of the fourth floor area involving approximately 22,500 NASF. The actual remodeling must be accomplished while adjacent areas are operating; consequently, the architect must phase the work so that only one-third of the space is taken out of service at any one time. It will be necessary to relocate staff and books around the construction area in order to keep the library areas available to staff and students. The existing walls are constructed of cellulose wall board over wooden studs which do not meet current fire safety codes. Also, the structural steel columns supporting the roof need to be enclosed with a fire retardant material to meet code.

Both the second and fourth floors have inefficient layouts, and this project will increase staff efficiency. The smaller libraries located on

the fourth floor would be relocated to the second floor's larger rooms allowing the staff to cover more than one library. The fourth floor would then be developed into a landscaped office area giving some relief to the very crowded conditions existing in the acquisitions and cataloging functions currently located on the second floor.

The total planning cost including working drawings is estimated to be \$190,000. It is anticipated that construction funds will be requested in FY 1992.

Agriculture Replacement Land (\$700,000)

The purpose of this project is to provide land needed by the College of Agriculture. The land is not requested to allow for expansion of land use, but to provide replacement for land already lost by the College in meeting the space needs of the College of Veterinary Medicine Complex and other miscellaneous non-agricultural projects. Land is needed to permit timely reorganization of the South Farms as several pending land losses impact the current organization.

The College of Agriculture desires to acquire approximately 200 acres of typical Central Illinois farmland somewhat to the south of the existing campus. The area need not be adjacent to campus, but should be contiguous with current College of Agriculture lands for obvious economic reasons. Recent developments along the First Street extension and interest by outside developers in the availability of farm land for sale leads us to believe that the University must act quickly or farm land acceptable for research purposes will not be available in close proximity to existing Agriculture lands.

Engineering Hall Remodeling - Planning (\$240,000)

This project involves planning to renovate and remodel Engineering Hall, which was constructed in 1894. The existing structure has not had a mechanical systems upgrade since it was constructed some 95 years ago. Over the years, the building has had a number of window air-conditioners and small package units installed to cool most of the occupied spaces. Basically, a new heating, ventilation, and air-conditioning (HVAC) system needs to be installed to replace the existing one-pipe steam system and the

various small air-conditioning units currently installed. The HVAC system needs to be designed with flexibility in mind since the University hopes to construct a new Engineering Library in the near future, which would change the use of the existing 11,129 NASF of Engineering Hall into office-related space. Additionally, the windows which are almost 100 years old need to be replaced as a part of this project.

The renovation will provide the basic mechanical infrastructure in the building that will allow the University to rearrange and remodel small blocks of space within the building. The building is the advising center for the College of Engineering as well as the location of the dean's office. The existing locations of various functions are not ideal since four of five classrooms are currently located on the fourth floor. Various additional remodeling projects would rearrange space to put classrooms and student-related functions on the lower floors with the reassignment of less heavily student-oriented functions to the upper floors.

The total planning cost including working drawings is estimated to be \$240,000. It is anticipated that remodeling funds will be requested in FY 1992.

REPAIR AND RENOVATION PROJECTS

FY 1991 REPAIR AND RENOVATION REQUEST

Funding for repair and renovation fills a critical void between capital budget appropriations for major remodeling needs and operating budget appropriations for the regular maintenance and day-to-day operation of existing buildings. While funding of adequate magnitude is of major importance, it is also critical to assure an appropriate level of support on a regular, recurring basis.

The University has relied upon the Capital Budget as the principal source of support for facility repair and renovation needs. That source in the past provided funds for repair and renovation through programs which are now discontinued--first through the Space Realignment, Renewal, and Replacement program, and most recently through the Build Illinois Repair and Renovation program. The Build Illinois program provided the University of Illinois with \$7.834 million annually in FY 1986, FY 1987, and FY 1988, but was suspended in 1989. In 1990, the Build Illinois Repair and Renovation program was reintroduced through the Science and Technology Initiative. Funding of \$7.834 million is requested for FY 1991.

This request is summarized for the two campuses on the following table with specific project descriptions provided in the subsequent section.

TABLE 8
UNIVERSITY OF ILLINOIS
FY 1991 REPAIR AND RENOVATION PROJECTS

<u>Campus</u>	<u>Project</u>	<u>Budget Category</u>	<u>Amount Requested</u>	<u>Cumulative Total</u>
Chicago	AAUB - Art, Arch. and Urban Planning Studios	REMD	\$ 162.0	\$ 162.0
	AHPB - Resource Ctr. - Anatomical Visualization	REMD	186.8	348.8
	SEL - Molecular Biology Research Laboratory	REMD	300.0	648.8
	SEL - Organic Chemistry Remodeling	REMD	325.0	973.8
	Fire Alarm Replacement - 3 Buildings	REMD	500.0	1,473.8
	Medical Sciences South Room Remodeling	REMD	275.0	1,748.8
	Biological Resources Lab Chiller Replacement	REMD	525.8	2,274.6
	Elevator Renovation - 2 Buildings Phase I	REMD	844.7	3,119.3
	Upgrade Campus Security System	REMD	165.6	3,284.9
Urbana-Champaign				
	FY 1992 Planning - Program Renewal	REMD	\$ 339.1	\$ 339.1
	Complete Graduate Painting Laboratory	REMD	150.0	489.1
	Education Building - Basement Remodeling	REMD	300.0	789.1
	Metallurgy & Mining Bldg. - 3rd & 4th Floor	REMD	200.0	989.1
	Plant Sciences Lab - Greenhouse Addition	REMD	700.0	1,689.1
	FY 1992 Planning - Deferred Maintenance	REMD	200.0	1,889.1
	Psychology Lab. - HVAC Improvements Phase II	REMD	310.0	2,199.1
	Morrill & Burrill Halls - Improve Ventilation	PLAN	350.0	2,549.1
	Foreign Languages Bldg. - Roof Replacement	REMD	265.0	2,814.1
	Noyes Laboratory - Elevator Replacement	REMD	360.0	3,174.1
	Noyes Laboratory - Waste Pipe Replacement	REMD	300.0	3,474.1
	FY 1992 Planning - Code Compliance Projects	REMD	144.5	3,618.6
	FY 1992 Planning - Classroom Improvements	REMD	50.0	3,668.6
	Architecture Building - Room 120	REMD	195.0	3,863.6
	Noyes Laboratory - Room 217	REMD	258.0	4,121.6
	Gregory Hall - Accessibility Improvements	REMD	222.5	4,344.1
	Core Campus Upgrade - Access Improvements	REMD	205.0	4,549.1

FY 1991 Repair & Renovation
Chicago Campus

Art, Architecture and Urban Planning (AAUP) Studio Remodeling (\$162,000)

The remodeling of the suite of rooms 2300, 2322, 2372, 2392, and 2394 (3770 NASF) and 2400, 2406, 2410, 2414, 2452, 2462, and 2482 (4992 NASF) is part of a sequence of related projects aimed at bringing AAUP's facilities to a level commensurate with current and projected academic program needs. This project will provide permanent facilities for technical graphic laboratories used for photo processing, computer graphics, and typesetting activities, as well as providing for design studio, seminar, and office space.

The following major items are included in the scope of work: minor demolition of interior walls and partitions; construction of four to six faculty offices; minor HVAC modifications to accommodate new wall/room configurations; installation of "built in" equipment to include counters in darkrooms, graphic lab areas and computer labs, tack board wall surfaces in studio and seminar spaces, and black/white boards in seminar and classroom areas; general electrical upgrading; plumbing extensions for work areas; extension of the telecommunication system to new offices; and painting of all walls. The existing ceiling and flooring materials will remain.

AHPB - Resource Center for Anatomical Visualization (\$186,800)

This project will be based in the Department of Biomedical Visualization in the Associated Health Professions Building (AHPB), and will provide a cross-campus, multi-disciplinary Resource Center on Anatomical Imaging. The center will draw on the talents and resources of diagnostic imaging specialists, anatomists, statisticians, computer graphics specialists, and medical illustrators. The project will stimulate research and development in these areas and provide a unique center offering the ultimate in computer graphic anatomical imagery for both scientific and lay clientele.

The scope of work will include remodeling rooms B36, B36A, B38, and B40. Currently these rooms are unoccupied and are used for storage of hospital records and equipment. General clean-up, painting, and minor electrical upgrade will be required. Room 201 is to be converted into a

computer room and will require extension of the air-conditioning services, minor electrical upgrade, and general cleaning and painting. Rooms 250, 254, 256, 258, 261, 264, 265, 266, 268 and 274 will serve as the laboratories for Anatomical Imaging and will require removal of walls from rooms 264, 265 and 268, as well as electrical upgrade, and general cleaning and painting.

SEL - Molecular Biology Research Laboratory (\$300,000)

This project will provide needed space for ongoing research programs in Molecular Biology by renovating room 4068 of the Science and Engineering Laboratory (SEL) into a wet laboratory and office space areas.

Room 4068 contains 1450 NASF, and once remodeled, will house an Associate Professor, two post-doctoral staff, and five graduate students. Remodeling will include minimal demolition within room 4068 and construction of fixed partitions to form one 12' X 12' faculty office. The lab will contain two stainless steel fume hoods, four stand-up benches each having a two cup sink with cold water aspirator, a house vacuum, and air and gas outlets. Work areas will be located on each side of the lab benches and will contain storage cabinets, drawers, and cupboards. The electrical upgrade will provide the necessary service to meet standard wet lab, refrigerated centrifuge, and freezer requirements. The plumbing upgrade will include extension of hot, cold, and distilled water lines and one floor drain.

SEL - Organic Chemistry Remodeling (\$325,000)

The Department of Chemistry's highest priority is the development of additional wet lab space for Organic Chemistry. The renovation of Room 3210 of the Science and Engineering Laboratory (SEL) into a modern organic chemistry lab is critical to this goal.

The renovation of room 3210 into four research labs represents Phase I of a comprehensive three phase remodeling plan for The Department of Chemistry. Currently this room (2684 NASF) is designed as a wet lab equipped with small, individual fume hoods, which unfortunately are not useable for Organic Chemistry research. The existing lab benches, including below counter storage areas, are acceptable to the needs of Organic Chemistry and

could be incorporated into the final design. Remodeling will include removal of lab benches, fume hoods, and other unnecessary equipment; partial removal of above floor water, gas, and air lines; and construction of fixed partitions to create two junior research labs and two senior research labs. Each junior research lab will be approximately 1000 NASF and will contain eight fume hoods, three single wet lab benches, one single dry lab bench, and one double wet lab bench. Each senior research lab will be approximately 335 NASF and contain one fume hood and one wet lab bench.

Fire Alarm Replacement - 3 Buildings (\$500,000)

The existing fire alarm systems at the University of Illinois Chicago Campus range from 25 to 45 years old. The various fire alarm systems do not conform to existing fire system codes; they cannot interface with new technological fire alarm systems; and replacement parts are no longer available. This is the second phase of a multi phase fire alarm system project that will be interfaced with the new fire alarm system recently approved by the University of Illinois Board of Trustees. Completion of this phase will provide state-of-the-art fire alarm systems for the Science and Engineering Office Building, Pharmacy Building, and Neuropsychiatric Institute.

In each of the three buildings, the project will consist of replacing the existing fire alarm system with a new control console and annunciator, and installing new heat and smoke detectors, pull stations, and alarm bells. All new systems will be interfaced with the new fire alarm system located in the Physical Plant Services Building.

Medical Sciences South Room Remodeling (\$275,000)

The Medical Sciences South Building is uniquely situated to serve the needs of the College of Nursing faculty and staff. The College's long range goal is to develop a focal point for Women's Studies activities on the west side of Campus. The objective of this project is to remodel rooms 215-242 to serve as this focal point, by providing space for community group meetings, classes for community and College of Nursing students, and offices for faculty and student research.

Remodeling plans include reconfiguration of this space (3600 GSF) into offices, a conference room, and a men's and women's restroom; and removing closets, sinks, and toilets from existing offices to create open office/research areas.

Biological Resources Lab Chiller Replacement (\$525,800)

The Biological Resources Laboratory Building was constructed in two phases (1959 and 1966), for a total of 99,589 GSF. The current chiller system, installed in the Phase I portion, has reached the end of its useful life and needs to be replaced. Completion of this project will replace the cooling system in the Phase I building as well as afford energy savings and improved environmental conditions for the building.

The major work for this project will include the replacement of two 160 ton chillers with two 200 ton chillers, an addition of a new cooling tower, and the installation of new chilled water interconnections with the chiller systems in the Phase II portion of the building.

Elevator Renovation - 2 Buildings Phase I (\$844,700)

A combination of heavy use patterns and equipment age has adversely affected the ability of the ten elevators serving University Hall (UH) and the four elevators serving the Neuropsychiatric Institute Building (NPI) to provide dependable service to the occupants of these buildings. Major rebuilding of the elevator operating components in these two buildings is required.

The ten elevators in UH require rehabilitation of the door operating mechanism, control components, and hoist equipment to restore the performance of these units. Renovation of the four elevators in NPI will include the replacement of elevator and hatch door operating equipment; installation of solid state controllers, generator sets, and hoist equipment; alignment of hatch rails and roller guides; and replacement of call stations and car position indicators. Phasing of work is needed to allow for the continuous operation of services to the building's occupants during renovation. The first phase will provide funds to renovate two elevators in each of the buildings.

Upgrade Campus Security System (\$165,600)

The first campus security system was installed in the late 1960's. Improvements to the system have been minor until the security alarms were recently relocated to the existing Building Equipment Automation System. This system, because of the number of points controlled and monitored, has a poor response time. While a slow response is tolerable in an automation system controlling HVAC equipment, it is undesirable and potentially dangerous when security alarms are being monitored.

The security system upgrade project will provide a consolidated state-of-the-art system for the entire campus. The proposed system will be computer driven with an alarm logging system capable of producing and managing reports on request. The system will be an adjunct to the computerized building access control system utilizing the building automation computer located in the Physical Plant Services Building.

FY 1991 Repair and Renovation Projects
Urbana-Champaign Campus

FY 1992 Planning - Program Renewal (\$339,100)

The planning funds requested are for building and remodeling projects programmed for FY 1992. It is important that these planning funds be provided in FY 1991, so these projects can be bid in a timely manner and actual construction can ideally be accomplished during the spring and summer of FY 1992. Projects included in this planning request are: relocation and expansion of the Psychology Library and its services within the Psychology Laboratory; remodeling the Sanitary Engineering Laboratory for the Division of Environmental Health & Safety; replacement of obsolete lighting equipment and antiquated lighting control systems for the Festival Theater and the Playhouse at the Krannert Center for the Performing Arts; conversion of the back stage area of Lincoln Hall Theater to classrooms and offices; and renovation of the first floor gymnasium in Freer Hall.

Fire Station - Upgrade Central Fire Alarm System (\$150,000)

This project will upgrade the existing central fire alarm work station facility and equipment at the fire station to improve function and reliability. Because of the increasing number of automatic alarm devices being installed in new and remodeled areas, new microprocessor-based equipment is needed at the central alarm work station. This project provides for the remodeling of the existing facility and installation of the new equipment.

Education Building - Basement Remodeling (\$300,000)

Funds are requested to remodel a workshop area of approximately 5,600 square feet that was formerly used by the phased out Industrial Arts Education curriculum into office and laboratory space. This space will be used by the new Curriculum and Instruction Department which will combine faculty and staff from several existing departments in the College of Education. This new department requires a unified space that encourages productivity and communication. Also, the College is supporting the development of a technology education curriculum which will require space to house offices equipped with computers and small laboratory research and

instructional areas. The remodeled area will bring together research faculty and staff currently dispersed in seven different on-campus buildings and one off-campus building, enhancing the potential for favorable interaction between research and instructional activities.

Metallurgy and Mining Building - 3rd & 4th Floor Remodeling (\$200,000)

This project will remodel space on the third and fourth floor of the Metallurgy and Mining Building, currently occupied by the Office of Admissions and Records, to provide additional space for the Department of Materials Sciences and Engineering. This remodeled space will provide a much needed increase in the number of offices for faculty and graduate staff, as well as additional space for research laboratories. For office space, the College of Engineering will work within the constraints of the existing wall configuration on the third floor. However, to create new laboratory space, it will be necessary to reinstate the utilities that were capped off when the Office of Admissions and Records occupied the space. New fume hoods will be installed in addition to utilities and other laboratory equipment.

Plant Sciences Lab. - Greenhouse Addition (\$700,000)

This project involves the completion of an additional greenhouse (Range K) that will be used by the Department of Horticulture. The range was designed as a part of the original Plant Sciences Laboratory Greenhouse construction project but was eliminated to reduce the total project cost. The original design specifications require only slight modifications to be consistent with the final design of the facilities just completed. With the construction of this greenhouse addition, the original commitment made to the College of Agriculture and the School of Life Sciences for greenhouse replacement will be complete.

FY 1992 Planning - Deferred Maintenance (\$200,000)

Planning funds for FY 1992 projects are essential in FY 1991 to ensure that projects such as roof replacements, elevator replacements, masonry repairs, and many HVAC system renovations can be accomplished during the summer months when the weather is good and the student occupancy in many

buildings is lower. The anticipated FY 1992 projects involve finishing the Undergraduate Library Plaza Deck, masonry repairs, roof replacements, and the Morrill and Burrill Hall ventilation systems.

HVAC Improvements - Phase II - Psychology Laboratory (\$310,000)

This project is the second phase required to correct deficiencies in the ventilation system at the Psychology Laboratory Building. This phase will consist of separating the office and laboratory reheat systems throughout the nine floors of the building and performing a total air and water balance of all HVAC systems in the building.

Ventilation Improvements - Morrill and Burrill Halls (\$350,000)

This project is designed to improve some of the building ventilation problems in both Morrill and Burrill Halls. As originally designed, these buildings had oil bath filter systems that subsequently became functionally inadequate. An improved system was installed but unfortunately, the oil and dust from the original equipment remained in the duct system. As a result, there is currently a problem with this material being transported through the system creating a "dirt" shower in laboratories and offices and causing contamination of important research projects. The project consists of cutting access holes for clearing the ducts, cleaning the duct system, installing an enhanced filtering system, and replacing several severely deteriorated ducts.

Roof Replacement - Foreign Languages Building (\$265,000)

This project will provide for a roof replacement on the Foreign Languages Building, originally constructed in 1971. The existing roof shows signs of severe wear. The roof base, felts, coatings, flashings, and curbing are cracked and deteriorating rapidly. The results have been water infiltration and constant moisture damage to interior finishes. Water entering these openings will soon cause extensive mechanical and structural damage, particularly near areas where roof penetrations occur. The existing roof will be replaced with a single-ply membrane which is a much more durable roofing material.

Elevator Replacement - Noyes Laboratory (\$360,000)

This project will replace the 50 year old elevator installed in Noyes Laboratory with a code conforming elevator that is reliable, maintainable, and provides handicapped access to all floors of Noyes Laboratory. A modern and up-to-date elevator will be installed with proper controls, leveling devices, and door sensing controls for ease of operation by all users. The improvement will provide improved service to all floors of the building.

Waste Pipe Replacement - Noyes Laboratory (\$300,000)

This project is a continuation of the replacement of waste piping in research labs, runouts and risers in Noyes Laboratory. Waste piping constructed of hubbed cast iron has a very short life when exposed to today's organic chemicals. This situation exists in nearly any wet laboratory type of building that is 50 years old or older. The waste piping will be replaced with fused joint polypropylene plastic piping, which is a much more durable type of material.

FY 1992 Planning - Code Compliance Projects (\$144,500)

Planning funds are requested to correct special code problems or features in order to bring several buildings into compliance with current code requirements. This project includes planning to complete fire safety improvements in the Natural History Building, including enclosing open stairways and extending the sprinkler system. In addition, a program will be developed to economically and efficiently modernize the fire alarm/evacuation systems in the older buildings on campus for compliance with current code requirements. Also included in the planning project is a fire protection engineering study of two buildings (Altgeld and Smith Halls).

FY 1992 Planning - Classroom Improvements (\$50,000)

Lincoln Hall Theater is the second largest teaching facility on campus. The 700-seat theater is used for many large classes and examinations. Funding is requested to plan the renovation of the facility for use principally as a modern lecture room while retaining some capacity for small theatrical productions. Existing theatrical equipment will be

removed from backstage, and from the three-story space above the backstage, to allow for the creation of additional classrooms and offices within Lincoln Hall. Renovations will include lighting, audio-visual and electrical improvements, new seating, and equipment storage.

Architecture Building - Room 120 (\$195,000)

This 143-seat lecture room is regularly used by the College of Fine and Applied Arts. The room was constructed in 1927 and has seen few improvements since. The proposed improvements include providing HVAC and lighting systems, a projection room, audio-visual equipment, and interior finishes. The wooden lecture seats will be replaced with new upholstered auditorium chairs. A modern teaching station will also be created in the front of the room.

Noyes Laboratory - Room 217 (\$258,000)

This project will renovate and modernize one of the University's oldest teaching spaces. The 125-seat lecture room, part of the original 1901 construction, is used primarily by the School of Chemical Sciences. Work proposed includes removing a supporting column in the middle of the room and installing a beam that spans the room. Also included is installation of a new HVAC system, seating, chalkboards, ceiling, lighting, and audio visual equipment. The room's demonstration area will be modernized. Existing windows will be replaced and new finishes (painting and flooring) will be provided.

Gregory Hall - Accessibility Improvements (\$222,500)

This project involves remodeling six restrooms, replacement of the elevator, installation of three handicapped-accessible water fountains, and installation of power assist systems for two pairs of entry doors.

Core Campus Upgrade - Accessibility Improvements (\$205,000)

Improvements will be made to five instructional buildings located on the central campus in order to comply with current handicapped accessibility codes and standards. The improvements include upgrading exterior entry ramps, restrooms, and water fountains, and providing power assistance for doors.

AMBULATORY CARE FACILITY

AMBULATORY CARE

Ambulatory Care Facility - Planning (\$2,500,000)

Planning funds are requested for an ambulatory care facility at the Chicago Campus. This proposed facility will greatly increase the quality of health care education and services of the University of Illinois health care system by helping to attract top faculty physicians and health care professionals, and by enabling the University to serve a larger, more diverse patient base for health care and educational needs. The ambulatory care facility will also improve the current decentralized approach to patient care, by operating in an integrated centralized fashion. In recent years, the focus of health care education has changed from the delivery of service on an inpatient basis to the delivery of services on an outpatient basis. This proposed facility will address this trend and provide top quality education to tomorrow's health care professionals, as well as top quality medical care to Illinois residents.

The University of Illinois health care system supports approximately 2,500 graduate and undergraduate students in medicine, nursing, pharmacy, dentistry, and associated health professions each year. In addition, 40 to 50 externally funded clinical research studies are conducted on an annual basis. Each of these studies requires the cooperation of patients and a diverse patient population to meet requisite educational and research needs.

The ability of the University of Illinois Hospital and Colleges to attract and retain top-quality faculty and health care providers requires efficient quality space in both clinical and research settings. As with all major teaching hospitals, large ambulatory care systems are necessary to provide the pool of patients to enter the larger health care systems, since full-time faculty/health care providers typically do not practice in the community.

The ambulatory care facility, proposed to be in close proximity to the University of Illinois Hospital, will enhance the Hospital's mission of providing a comprehensive range of health care services to the citizens of the State of Illinois and will be recognized as a community resource center providing the highest quality patient care. The facility plan is based on

a comprehensive service model for ambulatory care programs and services at the University of Illinois Hospital. A complete range of outpatient services will be provided with centralized registration, appointment, financial management and other related systems integrated into the facility. This centralized approach will eliminate the costly duplication of efforts existing in the current decentralized setting. The ambulatory care facility will contain the amenities and systems which will make the facility a pleasant environment and will emphasize the efficiencies gained from integrated systems.

Provision of such a facility will be a move toward attracting more private patients to the Hospital and will enhance the development of a health maintenance organization (HMO). In addition, ambulatory care facilities provide a place where procedures, once performed only on inpatients, can be routinely performed on an outpatient basis. This will help to lower the overall costs of health care and further attract patients to the University.

Proposed facility needs are based upon various factors including annual ambulatory care clinic visit volumes, anticipated future increases in clinic visit volumes including increases in the University's HMO membership, the ratio of exam rooms per practitioner in various specialty areas, the number of minutes per initial patient visit and per follow-up visit and the total number of minutes available for a clinic year.

Using these factors, an estimated 31 modules consisting of reception, waiting, nursing, examination, office, utility, treatment, conference, washroom and support personnel areas are needed. The facility will total approximately 144,500 gross square feet.

Currently the General Assembly, Cook County, the City of Chicago, and the University of Illinois are involved in the strategic planning of a coordinated health care plan. The actual scope of the ambulatory care facility will be developed as a result of this plan. This request of \$2.5 million in planning funds should be sufficient in FY 1991 to plan the required facility.

ENERGY CONSERVATION PROJECTS

FY 1991 ENERGY CONSERVATION REQUEST

Energy conservation has been an important goal of the University of Illinois for nearly two decades. Since 1970, the campuses have operated an active program aimed at identification and implementation of energy cost saving measures. During the first ten years the program focused primarily on operational changes which could be accomplished at little or no direct cost to achieve energy savings. These operational measures included actions as rudimentary as turning off lights when a building was not in use, cycling fan systems, lowering building temperatures in winter, and reducing levels of illumination in corridors and infrequently used areas. Some slightly more sophisticated measures included replacement of existing temperature controls with more efficient units, installation of timers on fan systems, replacement of hot water storage tanks with units employing instantaneous heaters, and providing additional weather sealing to buildings. These measures represent only a few of the many initiatives which resulted in energy savings. However, they illustrate the University's early efforts to maximize energy conservation at minimal expense.

At the end of the last decade, however, it became clear that virtually all significant operational energy conservation measures had been implemented, and new ways to curb the precipitous growth in the utilities budget must be devised. The energy conservation capital improvements program was therefore implemented. Projects in this program aim toward improving the energy efficiency of building and mechanical systems and utilizing more economical fuel sources.

In FY 1981 the University began requesting funding for the Energy Conservation program and it received enthusiastic support from the Illinois Board of Higher Education, the Bureau of the Budget, the General Assembly, and the Governor. Approximately \$1.9 million was appropriated to the University of Illinois in FY 1981. In addition, \$6.9 million was appropriated in FY 1981 for the reconversion of three boilers at the Urbana-Champaign Abbott Power Plant from oil/natural gas burning to coal burning. Since FY 1982, the University has been requesting funding from the U.S. Department of Energy's Institutional Building Grants program. These awards have been matched by State appropriations.

On average, the energy conservation projects which have been funded thus far will recover their initial capital cost through energy savings in approximately three and a half years. It is important to note that the "energy savings" discussed here do not represent a net cash savings. The reduction in energy usage as a result of the implementation of these projects more accurately represents energy cost avoidance, which will reduce the amount of the utility budget increase. For example, as the University expands and intensifies its uses of instructional and research computers and supercomputers, a significant amount of additional energy will be required. In addition, research efforts in areas such as Electrical Engineering, Computer Science, and Plant and Animal Genetics will require "clean rooms" and other sophisticated laboratory environments which are extensive consumers of energy. To some extent, the increased energy requirements these programs carry can be partially offset as a result of conservation efforts within the University's overall energy budget.

To support this continued effort to moderate overall energy costs, the University is requesting \$777,359 in FY 1991 for seven energy conservation capital improvement projects. These State funds will match a Federal grant of \$386,269 from Cycle XI of the ongoing Institutional Building Grants program. The individual projects which comprise the Cycle XI request are listed on Table 9 and are described in the section which follows it.

TABLE 9
UNIVERSITY OF ILLINOIS
FY 1991 ENERGY CONSERVATION REQUEST - CYCLE XI

<u>Campus</u>	<u>Building</u>	<u>Federal Grant</u>	<u>Requested State Funds</u>	<u>Total Project Cost*</u>
Chicago	Science and Engineering Laboratories	\$ 79,285	\$281,739	\$361,024
	Science and Engineering South	79,285	153,730	233,015
	Architecture and Art Laboratories	23,511	23,511	47,022
	Chemical Engineering Building	6,618	6,618	13,236
	College of Dentistry Building	<u>79,285</u>	<u>187,800</u>	<u>267,085</u>
	TOTAL	\$267,984	\$653,398	\$921,382
Urbana-Champaign	Music Building	\$ 39,000	\$ 39,000	\$ 78,000
	Loomis Laboratory	<u>79,285</u>	<u>84,961</u>	<u>164,246</u>
	TOTAL	\$118,285	\$123,961	\$242,246
TOTAL UNIVERSITY		\$386,269	\$777,359	\$1,163,628

*The amounts indicated in the project descriptions which follow are the requested State funds, not the total project cost.

FY 1991 Energy Conservation Projects - Cycle XI
Chicago Campus
(\$653,398)

The FY 1991 energy conservation projects for the Chicago campus involve the redesign of fluorescent fixtures, resulting in electricity conservation, throughout the following five buildings. Lighting redesign will be achieved by installing highly efficient reflectors in the fluorescent fixture. This will warrant the removal of the fluorescent tubes in a two-lamp fixture and still maintain a sufficient lighting level. One 16-watt bulb will be disconnected for each 4-tube fixture.

- Science and Engineering Laboratories (\$281,739)
- Science and Engineering South (\$153,730)
- Architectural and Art Laboratories (\$23,511)
- Chemical Engineering Building (\$6,618)
- College of Dentistry (\$187,800)

FY 1991 Energy Conservation Projects - Cycle XI
Urbana-Champaign Campus
(\$123,961)

The FY 1991 energy conservation capital improvement projects for the Urbana-Champaign campus involve extending the Monitor and Control System (MACS) to the two buildings listed below. The MACS is connected to a Central Supervisory Control Center, which monitors and regulates all building energy use from a single campus location. By controlling fan speeds during low-occupancy and no-occupancy hours, these projects will conserve steam and electricity.

- Loomis Laboratory of Physics (\$84,961)
- Music Building (\$39,000)