
Memorandum of Understanding

University at Buffalo
and the
State University of New York



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CONTENTS

Market Niche/Distinctiveness	1
Projected Institutional Position and Benchmarks of Success.....	1
1.0 Enrollment/Admission Selectivity	3
<i>1.1 Enrollment growth.....</i>	<i>3</i>
<i>1.2 Student mix</i>	<i>4</i>
<i>1.3 Recruitment.....</i>	<i>5</i>
<i>1.4 Level on selectivity matrix.....</i>	<i>6</i>
<i>1.5 Comparisons with selected benchmark institutions</i>	<i>7</i>
2.0 Student Outcomes.....	8
<i>2.1 Student life.....</i>	<i>8</i>
<i>2.2 Retention/graduation rates.....</i>	<i>8</i>
<i>2.3 Student/Alumni satisfaction.....</i>	<i>9</i>
<i>2.4 Post-graduate success</i>	<i>10</i>
<i>2.5 Assessment planning.....</i>	<i>11</i>
3.0 Faculty Development and Scholarship	12
<i>3.1 Faculty recruitment</i>	<i>12</i>
<i>3.2 Faculty review, promotion, and tenure</i>	<i>13</i>
<i>3.3 Quality and quantity of scholarship</i>	<i>14</i>
<i>3.4 Comparisons with selected benchmark institutions</i>	<i>17</i>
4.0 Intercampus Collaboration.....	17
<i>4.1 Joint academic programs</i>	<i>17</i>
<i>4.2 Articulation.....</i>	<i>18</i>
<i>4.3 Other cooperative activities</i>	<i>19</i>

5.0 Academic Program Directions.....	19
5.1 Undergraduate education.....	19
5.1.1 General Education.....	20
5.2 Graduate.....	20
5.3 Responsiveness to local/regional/state needs.....	24
6.0 Unit Plans and Goals.....	25
6.1 The Health Sciences	25
6.1.1 School of Medicine and Biomedical Sciences	25
6.1.2 Clinical Care	26
6.1.3 Dental Medicine	27
6.1.4 Nursing	27
6.1.5 Health Related Professions	27
6.1.6 Pharmacy.....	28
6.2 Education.....	28
6.3 Engineering	29
6.4 Architecture and Planning	29
6.5 Law	30
6.6 Management	30
6.7 Social Work	30
6.8 Information Studies	31
6.9 Arts and Sciences.....	31
7.0 Infrastructure and Technology.....	33
7.1 Facilities.....	33
7.2 Academic technology.....	34
8.0 Mission Review Funding.....	35
 <i>Appendix A.....</i>	 <i>37</i>

Market Niche/Distinctiveness

Campus role within SUNY System

The University at Buffalo is a major research university, located in New York's second-largest metropolitan area, offering a broad range of master's and doctoral level programs (115 master's programs, 80 doctoral degree programs and two professional doctorates). It is the State University's largest and most comprehensive undergraduate center (100 baccalaureate programs) and its major professional education center, housing SUNY's only Law, Pharmacy, and Architecture programs. UB thus has an overall composition, structure, and academic range similar to major flagship universities in the Mid-West, Southern and Western States. As Buffalo's Mission Summary states, "simply put, [UB is] bigger, more complex, more comprehensive and more urban" than other SUNY campuses. And it expects to continue to maintain such differences.

Founded in 1846 as a private medical college, Buffalo grew slowly in the 19th century, expanding with schools of Pharmacy (1886), Law (1887), and Dental Medicine (1892) before adding Arts and Sciences in the early 20th century, thereby becoming a full-fledged University. In 1923, UB established the "Evening Session," known as Millard Fillmore College since 1928, which is SUNY's largest undergraduate credit continuing education program. In 1962, UB shed its private character, joining the SUNY System. As part of this transition, the University retained its endowment and, of course, many passionate alumni. The fact that UB began as a professionally oriented institution has significantly shaped its history and culture. In recent years, UB has consolidated several separate faculties into a College of Arts and Sciences with the specific objectives of improving undergraduate education, student services, retention and academic planning for the disciplines of the college. The College of Arts and Sciences combines a traditional mission of humane liberal education with innovative research and creative application of digital technology across its many programs.

One of UB's priorities is working with regional business groups and organizations to ensure that the University's intellectual strength and physical facilities are used to the maximum advantage for regional and statewide economic, social and cultural development. Many of UB's academic programs have an urban focus and the University deploys its intellectual resources to strengthen the delivery of education, social services, healthcare services and cultural activities in the Buffalo area. Simultaneously UB has extended its reach in these fields via web-based and other means of distance education.

Projected Institutional Position and Benchmarks of Success

Appropriate to its status as the only SUNY member of the Association of American Universities (AAU), Buffalo has bold aspirations. Its long-term vision is "to be and be recognized as the premier public university in the northeastern United States, and as a national and international leader in higher education." To achieve this goal, UB—as a major research

university—must continue to be a significant force in regional intellectual, social, cultural and economic development, a catalyst for new and cooperative educational and research efforts that will link the institutions of Western New York and Southern Ontario, a principal and continuing leader in the undergraduate, graduate, professional and life-long education of New York's citizens, and be recognized nationally and internationally for its accomplishments.

Over the next decade and beyond, UB's defining characteristic will not be mere "size" or "*comprehensiveness*" alone, but rather "*strategic breadth*" – a deliberate focus on the range of programs and activities that will drive the University towards national prominence and help it achieve its regional economic and service goals. To gauge success in achieving its projected position, UB compares itself against the public universities in the AAU. System Administration concurs that UB should aim for the same stature and recognition enjoyed by flagship institutions in America's foremost public university systems. A comparison of UB with the AAU public institutions indicates UB is small in terms of number of faculty. One of the strongest correlates of quality and research competitiveness is size,¹ and UB plans to increase its number of faculty in key areas, as it increases its professional and graduate enrollment.

Research is and will continue to be UB's intellectual currency and the key to its reputation. To that end, the University must:

- Continue to support and expect individual faculty scholarship that is nationally recognized in the arts, humanities, social sciences and science and engineering;
- Support research in key areas deemed both intellectually important and with the promise of long-term social and economic benefit; and
- Define the hallmark of its undergraduate education as students working and learning with faculty who are active research practitioners.

At the graduate and professional level, UB's programs will aim to provide students with the experiences and knowledge that fit them for careers in a world of rapidly changing demands and expectations and merging disciplinary boundaries. Master's and professional certificate programs will grow, and Ph.D. programs will become increasingly focused and emphasize quality over programmatic breadth or size.

UB and the System concur that UB should be a proud member of the very top rank of American research universities. For any university to improve, it requires two fundamental things: money and encouragement of productivity and quality. In UB's next period of development, the money necessary for improvement will come from funding for enrollment growth at the graduate level and hopefully from state funding for research and graduate

¹ Feller, Irwin. "The Determinants of Research Competitiveness among Universities," in Albert H. Teich, ed., *Competitiveness in Academic Research*. Washington, D.C.: Committee on Science, Engineering, and Public Policy, American Association for the Advancement of Science, 1996, p. 35-72)

stipends that will be provided because these investments will fuel economic development. UB will also increase its generation of sponsored research, private dollars, and patent and license income. Internally, UB will continue to use a budget model that rewards those who bring money into the University, whether that money is in the form of tuition, contracts and grants, philanthropy, or patents and licenses. UB also plans to expand this budget model to reward the effective use of those dollars by measuring performance in quality and productivity. The University will track the changes in its programs in comparison to the best programs in the country in public research universities, and measure indicators of quality and productivity that can show improvement. UB believes in excellence and has a program for encouraging and rewarding excellence in teaching and research, a program that will show results in the years covered by this memorandum of understanding and thereafter.

1.0 Enrollment/Admission Selectivity

1.1 Enrollment growth

Over all, UB anticipates a modest increase in its undergraduate population and a significant increase in its graduate population (mostly in its master's programs and professional schools). There will also be some changes in the mix of students at the professional level (see §1.2). The greatest growth is projected in UB's graduate arts and sciences, business, social work, education, and pharmacy programs. At the undergraduate level there may be a shift in majors towards technology oriented disciplines, consistent with the pattern at other universities in the country. However, the overall number of undergraduates will not increase appreciably.

The University's detailed enrollment projection (including the Health Science Center) is as follows:

	Fall 1999 (actual)	Fall 2000 (approved)	Fall 2001 (planned)	Fall 2002 (planned)	Fall 2003 (planned)	Fall 2004 (planned)
Undergraduate						
FT first	3,196	3,000	3,000	3,000	3,000	3,000
FT transfer	1,365	1,442	1,500	1,500	1,550	1,575
FT Cont/Ret	9,569	9,440	10,215	10,500	10,700	10,800
Total FT	14,130	13,882	14,715	15,000	15,250	15,375
Total PT	2,129	2,093	2,095	2,085	2,085	2,085
Total Undergraduate	16,259	15,975	16,810	17,085	17,335	17,460
Graduate						
FT	4,889	5,306	5,400	5,550	5,700	5,850
PT	3,109	3,012	3,090	3,190	3,290	3,300
Total Graduate	7,998	8,318	8,490	8,740	8,990	9,150
Total Headcount	24,257	24,293	25,300	25,825	26,325	26,610
Total AAFTE	21,045	21,121	22,369	22,868	23,275	23,527

Note: Enrollment goals may be affected by external factors such as changing economic conditions, tuition increases, and fiscal constraints. Official enrollment targets that are the basis for the University's budget model are set annually through dialogue between campuses and System Administration, and may differ somewhat from the above.

In the long run (10-15 years), to more closely parallel the public universities in the AAU, UB envisions an enrollment of 30,000 students (25,000 FTE).

- Buffalo's enrollment plans have serious financial implications if UB is to preserve its academic quality. Both the campus and System Administration are assuming that current levels of budget model funding will be sustained to support this plan. (e.g., to hire necessary faculty, for support services). Should this not be the case, Buffalo's plans must be revisited. UB and System Administration agree that they must work together to gain more flexibility and autonomy with regard to State-imposed mandates and procedures.

1.2 *Student mix*

The campus' projected growth will involve further attention to and changes in student mix. Ultimately a 65/35 split between undergraduate and graduate enrollment is planned. In the coming years, most of the growth in UB's graduate-level enrollment will be focused in master's and professional programs. UB anticipates a greater focus at the master's level as it becomes more selective in its doctoral programs and reacts to the demand, particularly but not exclusively, in the science and technology areas, for master's level competencies. Overall Ph.D. enrollments are not expected to rise significantly. However, there will be some redistribution of enrollments across doctoral programs. By 2010, UB expects that Ph.D. student headcount in most of its biological and other life science programs, computer science and information technologies, engineering, materials science, and social work programs will increase slightly to moderately, while enrollments in other Ph.D. programs will remain constant.

UB's undergraduate student body will also become more geographically diverse. The University anticipates:

- 2% growth per year (compounded) of undergraduate students from outside Western NY (most of this growth expected from the NYC/Long Island area).
- The proportion of out-of-state U.S. students will grow to 4% by 2005.
- 7.5% of the undergraduate class and 12% of the overall student body will be comprised of international students by 2005.

UB manages the largest EOP program in New York State, and it also has a long tradition (dating from its days as a private institution) of providing educational access and opportunity. UB expects to maintain minority student enrollment at or above its current level of approximately 12%.

1.3 *Recruitment*

UB is convinced that it can offer a uniquely research-oriented undergraduate education that will be very appealing to New York and non-New York State students, and it seeks to attract high-quality undergraduates in a very competitive market. Campus leadership recognizes that it must maintain and improve its already sophisticated student recruitment enterprise.

At present, UB's undergraduate student body is drawn heavily from Western New York. This is not entirely consistent with the University's push for greater regional and national prominence, and can detract from the richness and diversity of the student experience. In order to provide students with greater opportunities for social and cultural growth, Buffalo will recruit more aggressively with the use of targeted, substantial financial aid/scholarship programs in other areas of New York State and will increase the proportions of out-of-state and international undergraduate students (see § 1.2). Together with increased recruitment, expanded use of distance learning in UB's academic programs will also attract out-of-state and international students from Canada and beyond the North American continent. UB's recently opened New York City recruiting office will be part of these efforts. Buffalo's proximity to Southern Ontario makes this an obvious target for international student recruitment, though the relative weakness of the Canadian dollar is a current hindrance.

- In conjunction with campuses, System Administration will seek to enhance flexibility in out-of-state and post-baccalaureate tuition rates.

Another of UB's central recruitment strategies is to retain more baccalaureate recipients through their master's study at UB and attract more new students by offering high quality master's programs in areas where job placement and/or career advancement would be facilitated by the possession of that advanced degree.

In support of UB's recruitment efforts, System Administration will:

- Provide fast response time from the Application Processing Center (APC) in order for Buffalo to make timely and personalized contacts with potential students;
- Continue to promote an on-line web based application process;
- Provide assistance in compiling useful admissions/enrollment data through the APC (e.g., how many students view UB or other SUNY institutions as their first choice), which may entail changes in the SUNY-wide application or in data-sharing policies; and
- Work to effect further changes in APC structure, pricing, and services to offer UB and other campuses greater flexibility.

Buffalo is concerned that SUNY's current practice of not including summer enrollments in campus AAFTE targets or in the calculation of state financial support discourages campuses from developing year-round professional graduate programs to meet the needs of employers.

- System Administration will work to include summer enrollments in the University's budget model.

The University at Buffalo will be proactively involved with high school programs both regionally and statewide, enabling local students to take advanced placement courses appropriate for baccalaureate credit, ensuring that UB courses are available to high school students during their senior year, and working to enhance the compatibility of high school and UB curricula.

- As a result of all these efforts, UB expects to increase the pool of freshmen applicants over the next few years at a rate of about 2.5% per year, compounded.

1.4 Level on selectivity matrix

Buffalo currently falls within the "Highly Selective" level (Group 2) of the undergraduate admissions selectivity matrix. However, the University intends to move to the "Most Selective" (Group 1) level as quickly as practicable. Building on its well-established University Honors Program, Buffalo has begun to implement an aggressive program of merit-based scholarships. The University expects that program to help increase the average quality of incoming students significantly over the next few years. If all goes well, UB plans to reach Group 1 within five years (this may take 7-10 years if funding or other difficulties intervene, but see also §8.0). As part of this push for selectivity, UB plans for its acceptance rate to drop from approximately 75% to 60% over the next five years. There is intense competition in the United States for the very best students. Private institutions are better able to compete for the best students by the practice of discounting their very steep tuition.² If UB is to compete for these students funding is needed for scholarships. Public institutions with high numbers of National Merit scholars, for example, typically provide financial incentives beyond payment of full fees. Currently UB's funding level does not allow UB to be competitive in this market.

UB's detailed undergraduate admissions selectivity projection is as follows:

	Selectivity Group	Fall 1999 (actual)	Fall 2000 (planned)	Fall 2001 (planned)	Fall 2002 (planned)	Fall 2003 (planned)
Regular Admits who have an SAT Score and a High School Average	Total	100.0%	100.0%	100%	100%	100%
	In Group 1	31.9%	34.5%	37%	40%	42%
	In Group 2	37.2%	42.5%	45%	48%	48%
	In Group 3	27.1%	21.5%	18%	13%	10%
	In Group 4	3.4%	1.5%	0%	0%	0%
	In Group 5	0.4%	0%	0%	0%	0%
Special Program Enrollees (EOP or Other Risk) as a Percent of Total First-Time Full-Time		13.0%	13.5%	13.5%	13.5%	13.5%
Regular Admits with no SAT score or High School Average (e.g., International, Non-Conventional)		3.8%	4.0%	5.0%	5.0%	5.0%

² See for example Winston, Gordon C. "College Costs: Subsidies, Intuition, and Policy," The Williams Project on the Economics of Higher Education, DP-45, November 1997.

- As discussed in §5.2, Buffalo seeks to improve the quality of its graduate (in particular doctoral) students as measured by GRE (or other comparable) scores, national draw, and other appropriate indicia. The campus will work with System Administration to develop meaningful criteria of progress in this endeavor. Both the campus and System administration recognize, however, that achievement of such goals will depend in part on the availability of more generous stipends, programs with faculty resources adequate to compete with peer institutions, and fellowship support (see §5.2).

1.5 Comparisons with selected benchmark institutions

Comparisons with selected benchmark institutions, based on data from the College Board Survey for the 1999-2000 academic year and the AAU Data Exchange, are shown below.

	University at Buffalo	Assoc. of American Universities High Rank	Assoc. of American Universities Low Rank	SUNY Stony Brook	University of Iowa	University of Pittsburgh
FT Undergraduate Enrollment	13,256	Penn State 32,482	Oregon 12,094	10,917	16,782	13,982
Acceptance Rate	71%	Berkeley 28%	Oregon 91%	54% ¹	84%	68%
SAT (25/75 Percentile)	1010-1230	Berkeley 1230-1450	Purdue 980-1220	1000-1220	1060-1290	1030-1240
HS GPA % > 3.0	48%	Berkeley 98%		85%	86%	NA
% Fulltime faculty	73%	Florida 93%	Colorado 58%	73%	96%	83%
Freshman Retention	82%	Virginia 97%	Nebraska 79%	83% ²	85%	85%
Graduation Rate (6-year)	60%	Virginia 92%	Nebraska 47%	54% ²	64%	62%

¹SUNY IR Application, Acceptance, and Enrollment Profile, Freshman Applicants, fall 1998 (Report 22-99)

²SUNY IR Attrition and Retention Survey, fall 1998 (Report 98-10)

Within the State University, UB competes for undergraduate students primarily against the other University Centers and the comprehensive colleges at Buffalo and Geneseo. Buffalo has solid data on its competitive position vis-à-vis these institutions. However, many of its admissions rivals are selective private colleges and universities in New York and elsewhere exhibiting similar student profiles (e.g. Cornell, Syracuse, NYU, Boston University, Penn State). Buffalo does not have all the information it needs to determine its true non-SUNY competitors (e.g., institutions sharing large numbers of cross-admitted students, about half of whom eventually enroll in each institution). The primary determinant of student quality is the price a university is willing to pay for the student. This price is paid by the private schools in the form of discounts in their tuition³ and by the publics by offering scholarships.

³ Ibid.

- Buffalo will acquire better data on its competitive position vis-à-vis private and out-of-state public institutions (e.g., number of mutual applicants; the University's "win" rate for cross-admitted students; reasons proffered by students who chose to go elsewhere) by participating in admitted student questionnaires in 2000-01 and thereafter. With this data in hand, the University will then develop benchmarks by early 2002 for gauging its success in student recruitment.

2.0 Student Outcomes

2.1 *Student life*

One of Buffalo's priorities is improving the quality of student life outside the classroom. For example, UB is consciously becoming more residential, with 25% of all students now living on or near the campuses and additional housing under construction and design. Efforts to promote this change include new apartment projects on the North Campus (long-term goal is to have 10,000 beds in the area), improvements to existing North Campus residence halls, conversion of some South Campus residence halls to apartments, and rehabilitation of other South Campus residential facilities.

Buffalo's move to Division I athletics is consciously designed to help achieve a series of educational, public service, and campus life goals. The University expects that this will raise the visibility of both the campus and the System, assist in recruiting students (especially from out-of-state), strengthen town-gown relations and bolster community support, and—importantly—increase school spirit and student identification with the institution, ultimately translating into stronger ties with alumni and enhanced fundraising.

The University is committed to monitoring the effects of its efforts to improve student life. UB's goals for increased retention rates are presented in §2.2, and the campus believes that student life outside of the classroom is an important component of retention and indeed of the learning that occurs in college.⁴

- The campus will submit a five-year report (by 2004) to System Administration documenting results of its efforts to improve student life, including the effects of the athletic program (and its move to Division I), housing, and improved student-centered services. Among other items, such report will analyze data on retention, student and alumni satisfaction, institutional climate and visibility, and private funds raised.

2.2 *Retention/graduation rates*

Student attrition at UB has been higher than the University would like. Accordingly, UB is reviewing the causes of such attrition to develop effective responses. Among the steps being

⁴ See Pascarella, Ernest T., and Patrick T. Terenzini. *How College Affects Students: Findings and Insights from Twenty Years of Research*, San Francisco: Josey-Bass

taken to reduce attrition are improved orientation, new first-year programs, campus life initiatives, and enhanced facilities and grounds. For example, UB has begun using block registration for a large number of incoming freshmen, who then have a common academic experience to discuss in a shared orientation course. The advising system is also being changed to help freshmen make a more successful transition to college life and to have advisement occur closer to programs in which students are enrolled. Entering freshmen now complete a survey that provides both advisors and students with useful information about how the student can maximize his or her chances for academic and social success at the University. Faculty teaching courses containing first-semester students are asked to provide mid-semester progress reports on those students. Advisors contact students who appear to have difficulties and offer advice, tutorial services, or study-skills workshops. UB has provided individual web access to each student, termed MY-UB, which provides the student with both academic and non-academic information. The University has also begun an effort to integrate all systems and services on campus (academic, student, and business) to focus around the student. As a result of these measures, UB expects its attrition rate to drop by about 1% per annum in the coming years.

UB's graduation rates are not substantially different from those of many other AAU public research universities (see, e.g., § 1.5). However, these rates are lower than UB itself would like. Because UB does not seek to follow the model of some institutions that admit large classes but expect considerable dropping out, raising the graduation rate is a campus goal. The retention and student life initiatives described above—along with offering attractive and distinctive academic programs, (see § 5)—should help UB students to graduate sooner and in greater numbers. To assist this effort, UB has also implemented an automated transcript analysis program that provides students with detailed information about what requirements they have not yet fulfilled and what courses they need to take next.

UB's goals for undergraduate student retention/graduation are as follows:

	Current	3-year goal	5-year goal
First year retention rate	81.56% ¹	85%	90%
4 year graduation rate	28.05% ²	32%	35%
6 year graduation rate	57.25% ²	60%	66%

¹Fall 1997 cohort; ²Fall 1992 cohort

In analyzing graduation rates, UB must be assured that appropriate metrics are being used based on an appropriate set of students.

2.3 *Student/Alumni satisfaction*

UB willingly participates in SUNY's student and alumni satisfaction surveys. The Student Opinion Survey (last administered in 1997) revealed that UB ranked near the average for

SUNY research university centers in key indicators such as Quality of Instruction (UB at 3.51; SUNY average 3.53) and Overall Impression (UB at 3.91; SUNY average 3.97). Areas where UB fared less well than peers and which call for remedial steps include advising (UB at 2.87; SUNY average 2.99) and the condition of residence halls (UB at 2.83; SUNY average 2.96).

- Buffalo will proceed with its ongoing efforts to improve academic advising services as described above and expects its scores in this area to rise significantly with the 2000 administration of the survey.
- UB will begin tracking differences, if any, in student satisfaction between residential and commuter students.

The results of the 1998-99 SUNY Undergraduate Alumni Outcomes Survey, which sampled 50% of the classes from 1991 to 1994, reveal high level of satisfaction among Buffalo graduates. The overall rating of the University of 4.09 on a five-point scale is very positive and compares favorably with the average of 4.06 for University Centers. UB fared well in many specific areas surveyed on both an absolute scale and relative scale; the campus fared well—exceeding the average for University Centers—in areas such as the quality of academic programs, opportunities for student involvement, and availability of cultural/fine arts/speaker programs. Buffalo alumni responded less favorably when rating opportunities for student/faculty interaction and sense of individual belonging on the campus. Perhaps most noteworthy, however, is that when UB '94 and '97 alumni were asked whether they would recommend the University to someone who asked their opinion, 96% said they would, and 53% would do so without *any* reservations (vs. 49% for all University Centers).

- UB plans on conducting surveys of entering freshmen, graduating seniors, and undergraduate and graduate alumni (five years after graduation) to evaluate their satisfaction with academic and non-academic aspects of their experience at UB. By using the same questions on all three surveys, a good estimate can be made of the effects of the education students receive.

2.4 *Post-graduate success*

Buffalo intends that its baccalaureate graduates receive a significant career boost from the distinctive educational opportunities available at the University. Indeed, Buffalo students have traditionally fared well in competition for jobs and admission to graduate or professional programs. On the other hand, the 1998-99 Alumni Survey revealed that when compared to the averages of University Centers, Buffalo had a somewhat lower percentage of graduates who went on to complete a master's degree, either at another college (21% vs. 31%) or at its own campus (15% vs. 16.7%). The University plans on surveying both its graduate and undergraduate alumni five years after they receive their degrees (§2.3) because the literature on this topic indicates that the most meaningful data on both employment and satisfaction are obtained with surveys at least five years after graduation.

- The campus will seek to systematically ascertain whether graduates are benefiting from their UB education in desired ways, so that positive results can help reinforce its recruitment, retention and development efforts.

UB is already a leader in SUNY in private fund raising, but is below its AAU comparator group in this dimension. One of the University's goals over the next few years is to significantly increase its private fund raising. In October 2000, the University will go into the public phase of a major capital campaign with a goal of \$250 million. This campaign is well along and the University has no doubt that it will achieve its goal.

Buffalo's current data on the placement and subsequent career paths of its graduate students is somewhat spotty, as it is largely gathered and maintained at the academic department or school level, rather than centrally. UB's Career Planning and Placement office seeks to offer more and better service to students completing advanced degrees. Faculty in academic units have also significantly increased the time and attention devoted to working with graduate students (particularly Ph.D. students), and are of course the main source of advice on placement in high-quality academic institutions, research institutes and other desirable job opportunities. Departmental Directors of Graduate Study, doctoral committee heads and administrative staff are working to strengthen the job-seeking skills of their students and to develop contacts beyond the academy that may yield job placement opportunities.

To better gauge the success of its graduate students, the campus will:

- Systematically collect post-graduation data on Ph.D. and masters' students. UB's innovative GRADMIT data system should be expanded to add career placement and tracking and prospect management modules.
- Explore with System Administration whether modifications to SUNY's extant Alumni Survey can meet this need or whether it would be fruitful for SUNY's research universities to jointly develop indices of graduate student outcomes. Meanwhile, UB plans on conducting its own survey of graduates, including those from professional and graduate programs (§2.3).
- UB will then utilize student placement and career data to inform its academic and enrollment planning and quality reviews.

2.5 *Assessment planning*

Assessment of student learning is (and must continue to be) a concern of all academic units at UB, but the University's level of activity in this area has been relatively modest. Buffalo's student assessment activities have been unit-based, with any resultant programmatic changes based in specific departments or schools. Furthermore, the University has neither developed nor implemented a significant or systematic process of program assessment. The University has asked each unit to develop quality and productivity measures that can be used to assess its programs in comparison to the best programs in public research universities. Each unit must

pick measures and 10 comparator institutions during the 2000-2001 academic year, and data must be provided as soon as possible, but no later than by the end of the 2001-2002 academic year. Then improvement in programs can be assessed by means of objective data. In some cases good valid national data are not available on a good quality measure (e.g., number of refereed publications, number of juried art exhibits and so on). In these cases, units can compare their own performance to their own performance the year before to demonstrate improvement.

- Buffalo will weave its ongoing and proposed assessment efforts into a comprehensive campus assessment plan, such plan to be developed by June 2001.
- The University will resume periodic (5 to 7-year) reviews of graduate and undergraduate programs, using external faculty reviewers from peer institutions (or, as appropriate, external accreditation review panels that come to campus to serve the same function).
- In accordance with new State requirements, UB will obtain accreditation of its teacher education programs by 2004.

A key foundation for assessment and quality assurance will be UB's comprehensive academic information system, which System Administration commends and identifies as a possible "best practice" across SUNY as a base for informed academic decision-making and budgeting. This system contains key descriptive and performance information for all major entities/programs on campus, allowing annual program/school quality reviews linked to UB's academic budget allocation process. This iterative process will permit each school/college to set and then monitor progress towards achieving its negotiated performance levels.

- UB will keep System Administration apprised of progress in this budgeting initiative to inform the development of SUNY-wide performance funding.

3.0 Faculty Development and Scholarship

3.1 Faculty recruitment

Buffalo competes with, and recruits most of its faculty from, the nation's premier research universities. The University screens candidates carefully, looking for individuals with values and experiences that fit well with the campus' goals. Expectations for faculty research are articulated in the recruitment process. Buffalo is concerned, however, that it increasingly finds itself unable to match faculty salaries, benefits—and especially research start-up packages—offered by competitors. UB and System Administration are working aggressively to find resources to address this concern.

UB's faculty hiring must focus on those disciplinary areas that are accorded priority because of intellectual importance, the importance of enhancing UB's national standing, or their promise of long-term social, cultural or economic benefit to the region and nation. The University intends to emphasize existing strengths and build off those to create new areas of reputation. Priority areas for faculty investment include computer science and information and communication science; the molecular biological and biomedical sciences, including biomedical engineering (a special partnership between SEAS, Medicine and other units of the health sciences); materials science; the environment and infrastructure (in particular, faculty affiliated with the School of Architecture and Planning); areas of social work addressing health education and the social service needs of urban communities; English and Comparative Literature; Classics; Psychology; Linguistics; Geography; Economics; and interdisciplinary work linking computing with music and visual arts as part of the rapidly developing interest in multimedia. In its future hiring, UB will seek in particular faculty who will strengthen not only their own departments, but who will forge academic connections across disciplines.

Over the next decade there will be a very large turnover of faculty within the University. This will be a major factor in its ability to both strengthen and refocus its directions. UB intends to use the resources generated by this wave of faculty retirements to make highly targeted and strategic appointments of high-quality replacement faculty that reflect overall University teaching, research and service priorities. UB recognizes it is not responsible to permit hiring by departments and programs without considering their impact on the University's mission and on other units in the University. Buffalo will also be creative in sharing faculty appointments with neighboring institutions. UB's medical school and the Roswell Park Cancer Institute (RPCI) have agreed to make single hires for positions in both the basic science and clinical specialties in order to maximize resources and minimize competition. UB anticipates that a similar arrangement can be developed with the Hauptman-Woodward Medical Research Institute (HWI) in the field of Structural Biology.

Pursuant to UB's enrollment and academic plans, faculty increases are anticipated in Engineering, Management, Computer Science/Engineering, and Social Work. These are areas enjoying demand significantly greater than the University's current capacity. Substantial growth in Pharmacy is needed to service the more intensive and highly enrolled PharmD. program. Many of the fundamental disciplines in Arts and Sciences need more faculty to sustain the central disciplines that are key to the success of any great university. The Graduate School of Education will need more faculty to support its growing efforts in teacher education.

Finally, UB does not wish to follow a "cookie-cutter" approach to faculty workload assignments and performance expectations. Teaching assignments should vary depending upon research productivity, and each faculty member's contribution to the enterprise should be maximized.

3.2 Faculty review, promotion, and tenure

As befits an excellent research university, Buffalo's promotion and tenure procedures are characterized by high standards and rigorous external reviews of faculty qualifications and scholarship. As part of these processes, UB also uses student evaluations of teaching effectiveness. System Administration applauds UB for adhering to high standards meant to ensure academic excellence.

Comparing its programs on objective measures to the very best programs in the nation will also allow UB to measure programmatic improvement and identify those programs that are not making progress.

UB is proceeding with intra-campus dialogue about faculty workload and membership in the University's Graduate Faculty. Each college/school has been developing its own criteria for Graduate Faculty membership. Once the individual college/school's criteria and appointment process are approved, the relevant Dean will have the authority to make appointments directly to the Graduate Faculty. Each college/school is also expected to develop its own process for periodic review of each appointed member's Graduate Faculty status. This will ensure that only faculty who are, and who remain, sufficiently competent and proven in their graduate education and training are involved in this level of instruction. It is anticipated that the procedures described above will be fully implemented during the 1999-2000 academic year.

- UB also will proceed with the development of a system that will permit (in a manner appropriate for different disciplines) longitudinal measurement of faculty activity that will extend from the initial letter of appointment through various stages of promotion and career, and will support the campus' own quality and productivity evaluation. The University eventually hopes to have an on-line faculty annual report system.

3.3 *Quality and quantity of scholarship*

As previously noted, research is and will continue to be UB's intellectual currency and the key to its reputation. System Administration appreciates this, and will work with the campus to secure necessary support for research.

Efforts to expand organized research will occur in selected science and engineering fields (see § 3.1), especially in the molecular biological and biomedical sciences (including functional genomics, structural biology, bio-informatics, computational biology, pharmacogenomics and human genetics); biomedical engineering; computer science and information and communication technologies; materials science (including photonics, engineered structures and biomaterials); and the environment and infrastructure. Not only do these areas represent existing or developing strengths at UB, they also represent areas that are vital to the nation's future and for which significant support will be available. Finally, they are empowering disciplines or technologies that will either directly or indirectly affect many other fields.

At the same time, UB will continue to support individual faculty research in traditional disciplines and the professions, and to enhance these efforts by access to global collaboration and information sources through investment in new learning and information technologies.

Key tactical steps in pursuit of UB research goals will be:

- Improvement of quality of graduate students by raising stipends to competitive levels.
- Recruitment of excellent faculty in key areas.
- Improved research support to get information on funding opportunities to faculty more effectively, to provide better support for the work involved in grant submission and databases that will allow better access to collaborative possibilities.
- The formation, operation and support of interdisciplinary research centers or institutes, some formed from UB faculty, and others created and shared between UB and other organizations (including RPCI and HWI).
- Creation of a research performance incentive system to reward faculty who are successful in the research enterprise.
- Innovative approaches to hiring that reflect the University's research objectives; for example, searches might involve several units. The University will also use more flexible arrangements for start-up packages and salaries.
- Attracting development support for research by educating development officers, teaming development staff with researchers, and soliciting gifts (e.g., endowed chairs) for specific programs.
- Better liaison with state and federal government aimed at increasing the visibility of UB research at both levels. System Administration and the University will pursue legislatively earmarked funds that promise to benefit Western New York.

As quantifiable objective measures to gauge the vibrancy and success of its research endeavor, UB intends to:

- Increase its total annual research expenditures (including direct and indirect costs) as reported to the National Science Foundation to approximately \$210 million by 2005, with federal research expenditures of approximately \$110 million. These goals reflect growth in external research funding of 5% per year (compounded) over the next two years and 10% per year (compounded) over the subsequent three years.
- Increase technology transfer royalties (from a current level of \$270,000/yr) to \$400,000 by 2001 and to approximately \$2.7 million/year by 2007.

These expectations require additional faculty hiring in targeted areas and in severely understaffed programs. Many of UB's programs show at present exceptional productivity (grant money per faculty member), so that grant money cannot increase without an increase in faculty.

3.4 Comparisons with selected benchmark institutions

Institution	Rank	Total R&D Expenditures (\$ in thousands)	Federal Expenditures (\$ in thousands)
University of Michigan (Ranked 1 st in AAU-publics)	2	496,761	311,450
University of Pittsburgh	38	213,842	168,511
University of Iowa	40	199,063	115,312
University at Buffalo	55	151,650	76,037
University at Stony Brook	61	141,766	91,531
University of Kansas (Ranked lowest in AAU-publics)	77	117,115	50,567

Source: National Science Foundation/SRS, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1998

4.0 Intercampus Collaboration

4.1 Joint academic programs

Buffalo has been a willing partner with other SUNY institutions in developing joint programs and other academic linkages. For example, the School of Engineering has forged particularly strong ties with its counterparts at Binghamton and Stony Brook. EngiNet, the distance learning venture jointly maintained by these three schools, provides for the exchange of graduate courses, enriching each school's curriculum and expanding educational opportunities for place-bound students. By UB's own assessment, it has not engaged in significant cooperative academic programming with regional SUNY and non-SUNY institutions. The University intends to examine and address this undesirable situation.

Over the next five years, UB will explore new collaborations. Topics under active discussion include:

- Graduate-level work in Education in conjunction with SUNY Plattsburgh.
- Distance courses in Planning offered by the School of Architecture and Planning, in partnership with Stony Brook.
- Distance learning programs offered by UB's School of Health Related Professions and HSC Syracuse (and perhaps also collaboration with Binghamton in Nursing).
- Within the Buffalo area, UB will increase collaboration with RPCI and HWI by sharing programs and joint faculty hiring.
- In the Graduate School of Education, on education and urban issues, opportunities exist for collaboration with Buffalo State College.

- The Graduate School of Education is undertaking a joint program with Erie Community College in the preparation of college teachers wherein faculty at both schools will jointly teach and supervise graduate students in a program leading to a Certificate in College Teaching.
- Development of a NYS SUNY/CUNY consortium of Graduate Schools of Social Work in partnership with the Commissioner of Family and Children Services, to provide statewide professional training for child welfare workers.
- Through Millard Fillmore College, UB's primary agency for distance learning, UB will use distance learning instructional technology to develop and deliver joint programs and other academic linkages with SUNY institutions.

Finally, Buffalo has also been discussing with graduate deans throughout the System the possibility of shared teaching of specialty graduate classes, as well as means by which SUNY's University Centers (which have relatively small departments) could benefit from one another while enhancing their respective foci and identities (e.g., mounting one very strong doctoral program in a specific field rather than several undistinguished ones).

- Recognizing that faculty must drive efforts to craft cooperative arrangements, Buffalo's leadership is willing to engage in further discussion with sister campuses about new structures (e.g., gatekeeper campuses with shared graduate faculty) that could help strengthen Ph.D. programs.

4.2 *Articulation*

Buffalo has articulation agreements in place with several SUNY community colleges, and is prepared to explore new forms of partnerships with these and other institutions, such as joint admission or on-site course delivery.

- The University will develop additional articulation agreements with sister two-year colleges leading to well-integrated degrees and facilitating seamless transition to upper-level study. Particular emphasis will be put on crafting articulation beyond Engineering and with colleges that are reasonably proximate to Buffalo (e.g., Jamestown, Finger Lakes, and Cayuga Community Colleges).

As part of these efforts, UB will work to provide prospective transfer students with information about which courses from their home campus satisfy UB's general education and program major requirements. UB already has an articulation web site that serves this purpose: <http://aries.buffalo.edu>.

- As another type of articulation, UB will explore joint bachelor's/master's admissions agreements with other SUNY baccalaureate institutions (especially Buffalo State College).

4.3 *Other cooperative activities*

Together with the other campuses in Western NY, Buffalo has pursued joint business services, including purchasing. It is prepared to expand such efforts. UB libraries have led the movement to create a cooperative Western New York Library Storage Facility with the Colleges at Brockport, Buffalo, Fredonia and Geneseo.

UB's Equal Opportunity Center in downtown Buffalo will be working more closely with Erie Community College and Buffalo State to foster a variety of innovative partnerships with area businesses.

- Buffalo will cooperate with sister SUNY institutions to facilitate the professional development of faculty at non-doctoral campuses, including developing distance learning tracks to earn a UB Ph.D. in a variety of disciplines, and sabbatical and leave opportunities to allow residence at UB to pursue research.

5.0 Academic Program Directions

At both the undergraduate and graduate levels, UB will continue to have a wide breadth of offerings, but programs will be very selectively developed in response to evolving educational and research priorities. However, all programs are expected to improve.

5.1 *Undergraduate education*

Likely areas for new program development at UB include Bioinformatics and Media Studies and Digital Arts. UB is also considering new programs or majors in information studies, music technology, multimedia technology in media arts, and interdisciplinary programs of many kinds. The Campus intends to encourage students to supplement their degrees through undergraduate or graduate minors or certificates in management, creative writing, health law, computing or information science, and other topics that will provide them with a broader range of career choices and options. UB expects that the master's degree will increasingly become the norm for students entering the workforce. It is particularly well-positioned (by virtue of its full range of liberal arts and professional programs) to fill this educational need offering liberal arts degrees linked to a professional master's degree.

Any new program UB develops will be reviewed for consistency with mission, demonstrated market need, and evidence of academic quality. As the University adds new programs it will continue to review existing programs for relevance and enrollment strength. When appropriate, UB will consider program deactivation and/or discontinuance.

Buffalo intends that having undergraduate students work and learn directly from faculty who are active researchers be the hallmark of a UB education and provide a critical distinction between the University and other, less research-intensive, institutions. UB will explicitly communicate to undergraduates the expectation that they should work with the faculty in research projects and independent study activities.

- Within five years, Buffalo will increase the proportion of undergraduates participating in such research activities with the faculty by 10% (Buffalo's records indicate that last year 1738 undergraduates participated in 373 different independent study/tutorial experiences).

5.1.1 General Education

One of UB's principal objectives in founding its College of Arts and Sciences was to provide a well-defined, quality general education. Buffalo has been working with the Provost's Advisory Council on General Education in developing a general education program that meets the requirements of the Board of Trustees' Resolution 98-241, and will have such a program in place for first-time students entering in fall 2000.

5.2 Graduate

Consistent with its aspirations, UB intends to provide a range of graduate programs that enjoy national prominence for their quality. In particular, UB will remain a major center for doctoral studies in Arts and Sciences disciplines, albeit in a more focused and collaborative manner and with considerable revision in the modes, costs, time-to-degree and uses of such learning.

UB is concerned that the small scale and resulting intellectual confines of many of its graduate programs make it more difficult to meet students' needs, to attract the best students and faculty, and to be—and be recognized as—high in quality. Therefore, one of the University's strategies is to create, where appropriate, disciplinary aggregates that will enhance programmatic size, breadth and distinction. Drawing faculty together within such frameworks can measurably foster interdisciplinary efforts and yield significant economies in terms of laboratory, instrumentation and various course staffing costs. Program aggregation/consolidation around broad themes has already occurred in several areas, including the Biomedical Sciences, the Pharmaceutical Sciences, Computer Science and Computer Engineering, and within the Graduate School of Education.

Other candidates for possible faculty/program aggregation include:

- Computer design, media and graphics (which can build on current efforts in computer science and engineering, human cognition and behavior, and Architecture and Planning)
- Various subfields within the Biological Sciences
- Language, linguistics and literature programs
- Asian Studies
- Computational and information sciences
- Cognitive sciences
- Environmental studies
- Hemispheric studies (the Center for the Americas)

- Regional development and planning, particularly in coordination with the Institute for Local Governance and Regional Growth
- Speech and hearing sciences
- Structural biology
- Women and gender studies (IREWG)

UB's academic leadership is convinced that the Ph.D. degree must be viewed in the context of preparation for a broad range of careers (of which faculty positions in research universities are a diminishing fraction) and that a master's degree—in a revitalized and reinvigorated form—may be a meaningful alternative to a Ph.D. for many persons in many circumstances. In many professional disciplines, including engineering and the non-M.D. health sciences, the norm for professional practice is moving to the master's degree. Even outside the professions (and irrespective of the market for Ph.D.s) the learning and skills needed in the workplace are increasingly directed to master's level competencies. UB also recognizes that it needs to generate high demand and high revenue programs that can help support other programs that it deems academically necessary and appropriate to its overall mission as a major research university. Buffalo's growing emphasis on master's level programs then helps meet changing student requirements, addresses intra-institutional fiscal pressures, builds off the University's extant strength in graduate-level instruction, and is more consistent with campus history and culture than other alternatives.

In light of the foregoing analysis, UB has been developing programs that allow students to make a seamless transition from a baccalaureate to a master's degree. The University now has approximately 20 combined bachelor's/master's programs, and it expects these programs to become the norm in many areas over the next five years. UB is also creating certificate programs: collections of courses (typically four to six in number) that provide a core of knowledge in a particular field and result in a certification of competency in that area. It currently has about 25 such programs in disciplines ranging from the Arts and Sciences to Dental Medicine, Education, Library and Information Science, and Nursing. Consistent with its plans to expand master's level and certificate programs, UB will

- Double its certificate programs to 50 by 2003.
- Add new BS/MS degrees in computer and information sciences and digital media studies, as well as certificate programs that focus on specific areas of computer science and engineering.
- Explore linking undergraduate programs in the fine arts with management courses and degrees.
- Monitor the success of its new master's and certificate programs, using criteria such as the number and quality of enrollees (including the number of UB undergraduates choosing to "stay on" to earn an additional degree); student retention; time-to-degree; and career opportunities and placement.

- Introduce a Master of Arts in Teaching program (or something similar to this) in fall 2001. In order to meet New York State requirements for teacher certification, promote 3-2 programs and other configurations that combine master's work in the disciplines of Arts and Sciences with teacher education programs in the Graduate School of Education.

Over the next decade, UB intends to selectively adjust doctoral program enrollments downward where faculty workload, student demand, available student financial support, and institutional resources justify doing so, using freed resources to have fewer, but better supported, Ph.D. students. In many cases, these downward adjustments will go hand in hand with an increased emphasis on master's level programming and associated enrollment growth in those programs.

A major funding (and development) priority for Buffalo is graduate student support. During mission review sessions Buffalo made a compelling case to System Administration about its inability to offer competitive stipends to the best graduate students (notwithstanding its practice of awarding quite different stipends across various disciplines and creative efforts to supplement awards). This situation is particularly acute for programs in the sciences and applied sciences.

- System Administration recognizes its responsibility to make an even more compelling case for doctoral-level education stipends and to try to find ways of making substantial additional funds available. Avenues that it will explore include (1) review of how Graduate Assistant/Teaching Assistant funds are allocated across the System, with the intention of awarding funds based on program quality and student outcomes, and (2) possible earmarking of System funds for stipends.

UB will do its own quality evaluation of graduate programs by comparing each of its units on objective data indicating quality and productivity to the 10 best programs in AAU public universities in the nation. UB's provost has asked each unit to choose measures of quality and productivity to compare their program to the ten best programs in AAU public research universities. Part of UB's state allocation each year will be reallocated based on performance of the units on these measures. Units will be rewarded for either being at the top of their national group, or for improving. This project will begin in 2000-2001 and will provide comparative data each year, thereby allowing evaluation of improvement in a consistent and objective manner. Buffalo's aim is to have all programs improve. The University will compare each unit's performance to its performance the previous year and each unit's performance to that of the best programs in the nation.

While UB expects all programs to improve, it expects to attain or maintain national leadership and excellence in the following programs:

- Biomedical science (and in particular)
 - Pharmacy, particularly vaccine development
 - Pediatrics

- Neurology/Neurosciences and Immunology
- Oncology
- Structural Biology
- Biomedical Engineering
- Biomaterials
- Chemical Engineering
- Computer Science and Engineering
- Chemistry and other areas in support of the Institute for Lasers and Photonics
- Molecular Biology, particularly functional genomics, proteomics, and molecular dynamics
- Bioinformatics, biophotonics, biotechnology development, and nanotechnology

In fields where external grant support is obtainable (e.g., science, engineering, and social science) UB will use sponsored research expenditures as one of its quality measures. These data are reported each year by the NSF, allowing UB to compare its performance to the best programs in the nation and to programs in the other SUNY University Centers. UB will also use faculty awards as a quality measure in all programs. Data on these are also available nationally. Awards used for this purpose will include: American Council of Learned Societies Fellows; Beckman Young Investigators; Burroughs-Wellcome Fund; Cottrell Scholars; Fulbright American Scholars; Getty Scholars in Residence; Guggenheim Fellows; Howard Hughes Medical Institute Investigators; Lasker Medical Research Awards; MacArthur Foundation Fellows; National Endowment for the Humanities Fellows; National Humanities Center Fellows; NIH Merit and Outstanding Young Investigator; National Medal of Science; National Medal of Technology; Newberry Library Long-term Fellows; Pew Scholars in Biomedicine; Presidential Early Career Awards for Scientists and Engineers; Robert Wood Johnson Policy Fellows; Searle Scholars; Sloan Research Fellows; NSF Career awards; Woodrow Wilson Fellows; Fields Medal; and other national awards.

Because of UB's emphasis on improvement and excellence, UB will improve its rankings in national studies of graduate program quality such as those conducted by the National Research Council, particularly in areas that Buffalo has specified as likely to achieve national excellence. More specifically, in future NRC rankings (recognizing that new rankings will not be available until 2005 at the earliest and that if new rankings occur the methodology is likely to change in significant ways from what the NRC has used in the past) Buffalo would expect its programs in Chemistry, English, Geography and Civil Engineering to achieve the equivalent of "top quartile" designation. It also expects noted improvement in the rankings for its programs in many disciplines, including Structural Biology (although the NRC has had a hard time categorizing biology disciplines), Computer Science, and Classics.

Finally, although certain of UB's other graduate programs presently lack sufficient resources and breadth to enable substantial improvement in quality and reputation in the near future, each has specific strengths in selected, though often somewhat narrow, areas of focus which can achieve greater prominence if carefully nurtured and developed within interdisciplinary aggregates.

UB is presently working to identify appropriate benchmarks of academic quality and impact for its graduate programs that are highly specialized or interdisciplinary in focus. Among the measures it intends to employ are initial job placement and career paths of graduates of those programs; the number, nature and sites of publications authored by program faculty; citations of faculty; and the extent of external funding that the program faculty attract to support their efforts.

- UB will share any such metrics developed with System Administration, to inform similar efforts across the State University.

UB is intensifying its efforts to recruit high quality U.S. students to its doctoral programs, because this is linked to both national recognition and to winning graduate training program grants.

5.3 Responsiveness to local/regional/state needs

Service and outreach are integral components of Buffalo's mission, and are directly linked to University teaching and research. The University needs to play a central role in the economic growth and revitalization of Western New York. UB is involved in several initiatives aimed at job creation, including:

- UB Business Alliance (a "one-stop shop" for industrial and economic collaboration with the University)
- Business incubators
- Institute for Local Governance and Regional Growth (concerned with both business and political structures)
- Technology transfer services
- Health Care Business Center
- Active participation in the Strategic Partnership for Industrial Resurgence

UB's intellectual resources strengthen the delivery of education, social services and health care services in the Buffalo area. The Graduate School of Education is involved in a host of partnerships and programs to enhance metropolitan Buffalo schools and provide the public with educational opportunities. UB's Health Sciences Center is a major provider of health care services in medical and dental clinics on campus and throughout the community, playing a vital role in delivering dental and medical care to under-served patients and communities. Law school faculty and students provide high quality legal counsel to those in need. The coming years will witness:

- Increased emphasis on public service from UB's professional schools, in particular its School of Social Work
- Continuing participation in the revitalization of the University Heights neighborhood through the University Community Initiative, in partnership with its residents, students, businesses, local governments, and other concerned stakeholders.

UB plays a special role in sustaining the cultural institutions of Western New York. Through Millard Fillmore College (MFC), UB also remains committed to providing non-traditional students the learning and credentialing experiences needed for their intellectual, professional and economic growth.

- MFC will develop a SUNY Continuing Education Council to include UB, Buffalo State, Erie Community College, and Empire State to address the continuing education needs of the Buffalo metropolitan area and avoid unnecessary duplication (ideally making use of distance learning technology, see § 7.2).

6.0 Unit Plans and Goals

6.1 The Health Sciences

UB seeks to integrate the education of healthcare providers, so that professionals—doctors, dentists, nurses, pharmacists, physical and occupational therapists, and technologists—work together (building off of common curricula in many instances) to provide leadership within the healthcare delivery system, particularly in Western New York.

6.1.1 School of Medicine and Biomedical Sciences

UB's goal is for the School of Medicine to achieve AAMC top 20 research ranking (based on external research funding). Its strategy to reach this goal is based on targeted faculty recruitments in specific areas (e.g., cancer research, pediatrics, neuroscience, immunology) that will enable UB to build on existing strengths and to make new investments in the fields of genomics (and post-genomics), structural biology, epidemiology and bioinformatics, biophotonics, vaccine development, and biotechnology development. The University points to three specific factors that will contribute to the success of these plans. First, a significant percentage of the School's faculty is at or is close to the traditional retirement age. This will provide a major pool of resources, and UB will further leverage these dollars with specific requirements of faculty self-support from grants. Second, the University has committed substantial sums to infrastructure renovation and equipment. Third, as described in §3.1, coordinated hiring with RPCI and HWI will bring fiscal and academic benefits. Accordingly, key indicia of success for the School are:

- Attain AAMC top 20 research ranking within 5-7 years

- Renovation of 5-7 faculty laboratories each year (for a total of 20 labs by 2003)

Over the next few years, the School of Medicine will seek to be less dependent on clinical practice income, thus permitting it to focus more on scholarship and education linking human disease and therapy to basic science. It will need less than its current 600 clinical faculty, but the state salaries of continuing faculty (which are currently modest) will have to be raised to account for larger commitments to teaching and research. UB also expects that the number of residents will decline, as services and training that are now spread among four or more hospital sites will be concentrated at no more than two locations, and both residents and students receive substantial clinical training in non-hospital settings. Most important, in partnership with affiliated hospitals several areas of strength will be developed as Centers of Excellence bringing together advanced clinical and basic research, sophisticated clinical patient care, superior clinical outcomes, and technology transfer and business incubation. Current plans call for enhancing

- Clinical Centers of Excellence in Oncology (based at, and through RPCI), Pediatrics, Rehabilitation Medicine, and Geriatrics; and
- Basic Science Centers of Excellence in Neuroscience (including Neurobiology and Clinical Neuroscience), Community Health, Genomics (including microbial genomics), Biomedical Engineering, and Drug Development.

All of these areas will grow in size and national recognition. They will be supported by a highly ranked program in Social and Preventive Medicine, linking academic health disciplines. The University already has a strong program in outcome measures and assessment in Rehabilitation Medicine.

The School is concerned that M.D. enrollments are higher than is pedagogically sound. It therefore will:

- Develop an academic and financial plan by the end of the 2000-2001 academic year for a self-sustaining and properly scaled M.D. program

6.1.2 Clinical Care

UB is unique among SUNY Health Science Centers because it does not have a University-owned and dedicated hospital. This presents special challenges, as well as opportunities. On the negative side, UB's medical faculty work for several masters and owe less than full allegiance to the School and University. Nor is UB immune from the constant pressure to reduce healthcare costs (sharply accelerated by the rise of managed care). However, not owning a hospital also gives the University more flexibility to position itself in a fluid market, enabling it to develop partnerships with (and mediate between) competing health care systems.

Because the Buffalo area has too many hospitals, UB's leadership is wisely planning for a significant reduction of hospital beds and hospital-based clinical education sites. This

consolidation of health delivery systems should afford UB an unprecedented opportunity to reorganize its faculty into a smaller, more cohesive, and geographically united group, with streamlined clinical department administrative structures and practice plans. If successful, this would result in an enhanced “academic” environment and improved ability to recruit and retain full-time faculty that identify more strongly with UB.

Critical objectives for the University’s clinical enterprise in the next several years will be:

- Negotiating favorable affiliation agreements with local hospitals and health care networks. Such agreements should provide that money paid to full-time faculty would be funneled through the University (along with Graduate Medical Education [GME] payments).
- Ensuring a “nurturing” clinical environment (across settings) for its academic programs.

6.1.3 Dental Medicine

The Dental School is well known for its innovative curriculum, its outstanding basic research in oral biology, its broad range of high quality clinical research, its leadership in the application of technology to patient management and education, and its extensive service network extending quality care to the needy in Western New York.

- UB’s goal is for the Dental School to be recognized as one of the top 5 in the nation.
- UB also aims to maintain the superb record of sponsored research in the Dental School.

6.1.4 Nursing

UB’s School of Nursing has been responding to shifts in supply and demand for nurses by dramatic changes in curriculum. The undergraduate program now focuses largely on out-of-hospital practice, while graduate-level curricula include opportunities for “re-tooling” of advanced practice nurses as well as several new programs in high demand areas (e.g., critical care, case management). University and School leadership will be engaging in discussions about the School’s projected foci.

- The School will develop a long-range plan by the end of the 2000-2001 academic year.

6.1.5 Health Related Professions

The School has highly selective undergraduate programs in Occupational Therapy and Physical Therapy. Both fields have moved toward requiring a master’s degree for entry-level qualifications. Interest is also growing in joint programs leading to degrees in both fields. The

School is working on plans to meet these upgraded expectations (which would entail enrollment increases). In the coming years, the School will also:

- Consider the introduction of a Doctorate in Physical Therapy (this would accompany an expansion of the Exercise Science and Nutrition programs).
- Develop new programs in clinical laboratory sciences, industrial hygiene, and possibly biotechnology laboratory science.

School curricula increasingly focus on the needs of the growing population of elderly who require care in non-institutional settings, and its programs in Exercise Science and Nutrition are becoming more integrated in response to career opportunities in the field of wellness.

6.1.6 Pharmacy

The Pharmacy School at UB has for some time been one of UB's most respected schools. As SUNY's only Pharmacy School, it bears a special responsibility to the profession in New York State. Pharmacy has moved to a 6-year Doctor of Pharmacy (PharmD.) program as the entry-level professional degree. This change (which will approximately triple post-baccalaureate enrollment) was made in response to accreditation requirements and reflects the expanding role of pharmacists in patient care (e.g., pharmacotherapy management). The new program requires substantial expansion of faculty for clinical instruction, and more advanced education in pharmacology, chemistry and pharmaceutical science. In addition, the strong demand for pharmaceutical scientists in the pharmaceutical and biotechnology fields make the expansion of the undergraduate and graduate programs in these fields extremely desirable, given their importance to economic growth and development.

6.2 Education

UB's highly rated Graduate School of Education is one of two UB schools to be ranked in the top quartile of programs in the nation by *U.S. News and World Report* and was ranked even higher (25th) in the University of Illinois 1995 study of schools of education. It has a high quality, research-based, and rapidly growing teacher education program and highly selective master's and doctoral programs preparing administrators, counselors, and psychologists for America's schools. Programs are based on the science-practitioner model with increasingly intense focus on two areas identified as central to its mission by its new strategic plan: urban education and technology. Two new institutes in Urban Education and in Technology have been created to take this model into the community. The School of Education is committed to dramatic movement of training and research out from the ivory tower and into the surrounding schools, especially into the Buffalo Public Schools.

Among the School of Education's new program directions are:

- Establishing a mentoring certificate program for experienced teachers to help schools meet new SED requirements for mentoring beginning teachers.

- Linking teacher education more closely with educational leadership, counseling, and psychological services.
- Working with sister SUNY institutions (through articulation agreements and other means) to address growing teacher shortages.
- Development of an undergraduate minor in education for CAS students that will provide them with a head start on teacher certification, thus reducing time to certification and degree.
- Development of 5-year integrated bachelor's/master's degree programs leading to a bachelor's degree in CAS and a master's degree in GSE and teacher certification all in 5 years.

6.3 *Engineering*

The Engineering School's goal is to be among the top 30 in the United States and the top 20 in public universities, and a leader among its cohort of comparable mid-sized AAU public universities. To accomplish this, the School needs to have a better balance between its student population and faculty resources. The School's five-year targets include

- Increasing enrollment to 3,500 students;
- Improving retention so that degrees granted increase by 20%; and
- Expanding annual research support to \$225,000 (currently at \$170,000) per full-time faculty member.

To accomplish these targets, the tenured and tenure track faculty needs to grow substantially. The School projects increase of 80% in annual research funding and in job-creating service to industry in New York State. Finally, in light of the growing influence and inter-connection among Computer Science and Engineering, over the next decade the School's name is even likely to change to the "School of Engineering and Computer Sciences."

6.4 *Architecture and Planning*

The School sees its niche as leading edge, design and technology-oriented programs that will enable it to build a national reputation as a small school at the forefront of these fields. Consistent with an urban focus, the School has research centers in urban design, urban studies and community development, and has been a crucial part of the Institute for Local Governance and Regional Growth. Appointment of a new dean with a national reputation is a key priority. Specific goals are:

- Development of a 1 ½ year research-oriented degree;

- Establishment of a Center for Virtual Architecture; and
- Work together with other SUNY units (e.g., ESF, Cornell, Albany, Plattsburgh and the Architectural Technology program at Alfred State College) on the development of new housing and construction paradigms.

6.5 *Law*

UB's Law School has a distinctive J.D. program that expands into the social and economic consequences of law, and then links this broader understanding with advanced practical training. The School hopes to gain wider national recognition through its new curriculum. One of the School's major challenges in the coming years will be equipping students for the rapidly changing legal and business environment brought by information technology and communications.

- UB's goal is for the Law School to be recognized as one of the top 30 in the nation.

6.6 *Management*

The School of Management has a broad set of programs, including a large undergraduate program, several domestic MBA programs which operate in highly competitive markets, several internationally-located MBA programs (the School views these as a distinctive program element and the foundation of a strategy for wider recognition), a small and focused set of Ph.D. programs, and expanding continuing education and distance learning activity. The School of Management will continue to strengthen its ties to the local business community. As UB develops more capstone master's programs, the Management School has a potentially significant role in providing a large group of non-management degree students with some management knowledge and skills. UB's goals for the Management School include:

- Recognition as one of the top 20 public university programs in the nation;
- Expanded offerings via distance learning; and
- Increased recognition for expertise in the area of entrepreneur education.

6.7 *Social Work*

UB's School of Social Work is currently in the process of significant revitalization. Though small, it has refocused its research emphasis on two major areas—addictions and child welfare—which fit neatly within an overall urban emphasis. The School has an intense commitment to the translation of research findings into improved practice with measurable outcomes, thus bridging a divide that has long plagued social work education at the graduate level. Central to this effort is the concept of partnership with community agencies so that the

research questions emerge from the realities faced by social workers and other professionals in the field. In the coming years, the School of Social Work intends to:

- Establish an interdisciplinary Institute for Program Planning, Development and Evaluation that will strengthen the service and research capacity of community agencies.
- Upgrade and expand its off-campus programs in the Southern Tier.
- Achieve recognition as one of the nation's top 25 Social Work programs (currently ranked 50th by *U.S. News and World Report*). A large part of achieving this goal will be attracting more external research funding.
- Develop prevention and intervention services for children suspended from school for violence within the partnership already formed between the Buffalo School District and community-based agencies.

6.8 *Information Studies*

The School of Information Studies (SIS) is the University's newest school. Established in 1999, SIS combined the Arts and Sciences-based Department of Communication with the former School of Information and Library Studies. The School of Information Studies' mission is to provide leadership in the design, implementation and evaluation of information technologies through: 1) research in the areas of information technology, human communication, and organizational change; 2) cutting-edge programs and education for graduate and undergraduate students, as well as mid-career professionals; and 3) service through public and private partnerships.

The library program was ranked 18th in the country by *U.S. News and World Report* in its most recent rankings of graduate programs. The undergraduate Communication major is popular and growing, and the demand for Ph.D.s in Communication is high. The School's first programmatic initiative has been development of a 5-year master's in Information and Communication. The creation of SIS will strengthen all the educational programs within the School and lead to the development of new research initiatives in the media and information technology fields. Improvement in the rankings and national profiles of all SIS programs is expected as a result of the merger.

6.9 *Arts and Sciences*

Created by the merger of three pre-existing faculties (Arts & Letters, Social Sciences, and Natural Sciences and Mathematics) in 1998, the College of Arts and Sciences is central to the realization of UB's aspirations. The College is committed to delivering excellence in undergraduate and graduate teaching, research, and service. As anticipated, the amalgamation of the faculties has resulted in significant improvements in undergraduate advising, and curriculum development and implementation, particularly with respect to general education.

Since its inception, the College has been adapting itself to a smaller, leaner operating reality. Ongoing planning efforts aim to identify programs of nationally and internationally recognized excellence, or where the potential for such excellence exists, for future investment. Additionally, programs that can be shown to address student demand, such as the graduate certificate program in applied economics, are being aggressively supported. Attempts are also being made to identify areas in which strategic hiring might benefit several programs simultaneously. Careful planning of this sort is required if the College is to mitigate the natural tensions that result from the desire to simultaneously optimize student enrollments, educational quality, research productivity, service responsibilities, and sponsored program activity. Many of the programs in Arts and Sciences are too small in terms of faculty to compete at the level that UB desires. If Buffalo's planned enrollment growth at the graduate level is funded, the University will be able to increase faculty size in the fundamental disciplines of the Arts and Sciences, and compete nationally.

UB has a strength in the humanities that it intends to preserve. The purpose of teaching is to encourage students *to be curious about important ideas*, and to expose them both to the great ideas of the past and to the crucial issues of the future. In all of Western history, there has never been a great institution of learning where the humanities were not central—from which pattern UB concludes that it may be impossible to be a great university without first-rate teaching and scholarship in English, foreign languages, history, philosophy, the arts, and the other traditional disciplines. Undeniably science and engineering are indispensable to UB's future; equally undeniable is the principle that, if UB indeed aims to be a great university, it must maintain its excellence in the humanities, arts, and social sciences.

7.0 Infrastructure and Technology

7.1 Facilities

UB's physical plant could accommodate as many as 30,000 students. However, maintaining dual campuses imposes extra costs (particularly at the older South Campus). UB has an aggressive program of physical (including aesthetic) improvements to its campuses. Several of the more significant planned improvements include:

- A Student Services Building to consolidate Admissions, Advisement, Financial Aid, and Records and Registration in one central location on the North Campus.
- New exterior signage to improve access and circulation on both campuses.
- Building additional student housing (see §2.1). One project under consideration would link the North Campus academic spine to the Ellicott Complex and bridge the Audubon Expressway. Although the North Campus, which has much under-occupied land, is becoming increasingly residential, it must still be developed with consumer facilities such as restaurants, coffee houses, theaters, and stores, to enhance its sense of community.

- Continued improvements to roadways, walkways, parking lots, grounds, and building exteriors.
- Creating master landscaping plans for both campuses.

UB has some short-term concerns about the availability and adequacy of classroom space. In addition, UB will require the assistance and advocacy of System Administration and the SUNY Construction Fund to lead the Dormitory Authority to make needed repairs to campus buildings.

7.2 *Academic technology*

Beyond their significance for research (§3.1), Buffalo is convinced that information and communication technologies will be increasingly vital to teaching and learning at the University, and to its service and outreach activities. UB envisions itself as the region's major information technology hub. Toward this end, it has established a Center for Computational Research and acquired substantial high-speed supercomputing capacity. Starting in fall 1999, entering students must have access to a computer (UB assists poor students through low pricing and financial aid), thereby allowing faculty to use computers a key part of every academic program. Finally, sophisticated academic information and computing services are provided to the University community, including: high-speed wiring from all residence halls and public and departmental computer labs; unrestricted, free Internet access and e-mail accounts to all students; telephonic and web-based access for online course registration, class schedules, grades and financial aid information; advanced computer laboratories located in university libraries; a web-based library information system with a searchable database of holdings; a web site listing all UB courses and demonstrating how transfer courses will articulate; and a degree audit reporting system that permits students to monitor compliance with departmental and University requirements.

The University's libraries have collaborated in supporting distance learning partnerships among SUNY institutions, and support the *SUNYConnect* initiative. UB also intends to play a leadership role in support of electronic publishing of faculty scholarship.

- UB has made substantial investments in technology (e.g., equipment, faculty lines in relevant areas, classroom technology, and electronic library collections) and will continue to do so in order to support the academic program and student and business services.

UB, primarily through Millard Fillmore College (MFC), is developing its distance learning program using multiple modalities, including asynchronous learning networks, synchronous instruction with ISDN and fiber optic, cable television, and videotape. The University played a leadership role in establishing the Westnet Consortium, and joined with other local SUNY campuses in Project Connect and Buffalo CityNet. Although distance learning activities at UB

are spread across various departments and schools, in the future MFC will become the primary locus of such efforts.

To date, Buffalo has participated at a rather modest level in the SUNY Learning Network (SLN). As the campus begins to expand its involvement in asynchronous distance learning, the number of UB courses offered through SLN will increase. System Administration encourages such growth. Together with SLN and through a variety of partnerships with other electronic portals, UB will address new audiences nationally and internationally.

MFC, through its own resources and in collaboration with other UB academic units plans to:

- Add approximately 25 distance learning courses per year; and
- Collaborate more closely with other UB units in distance learning, particularly the Schools of Nursing, Social Work, Education, Engineering, Pharmacy, and Architecture and Planning.

8.0 Mission Review Funding

The University at Buffalo has received a \$1,200,000 Mission Review funding award to facilitate changes in and enhancements to campus mission. This competitive award was based on the academic merit of Buffalo's proposal to:

- Improve the academic profile of its freshman class.

This award is contingent upon the University meeting the reporting and other requirements detailed in Appendix A. These reports will enable System Administration to better evaluate the strength and plausibility of future Mission Review funding proposals.

* * * *

This memorandum of understanding was developed jointly by the University at Buffalo and the State University of New York System Administration to provide guidance for planning the campus' future and a framework for gauging the achievement of its goals. Recognizing that individual institutions and the State University as a whole must be able to respond to changing circumstances, both UB and System Administration will work together to realize the goals and objectives articulated in this document.

William R. Greiner, President
University at Buffalo

Robert L. King, Chancellor
State University of New York

Appendix A

Mission Review Funding

The University at Buffalo has received a \$1,200,000 Mission Review funding award to facilitate changes in and enhancements to campus mission. This competitive award was based on the academic merit of Buffalo's proposal to:

- Improve the academic profile of its freshman class.

This award is contingent upon the University meeting the reporting and other requirements detailed in Appendix A. These reports will enable System Administration to better evaluate the strength and plausibility of future Mission Review funding proposals.

This award will be made in three installments:

Year 1: \$ 750,000 Year 2: \$ 450,000

First year funding is contingent upon an agreed-upon Memorandum of Understanding. Second year funding is contingent upon the University meeting the reporting and other requirements detailed below.

A. Reporting

At the conclusion of each year for which the University receives Mission Review funding, Buffalo will submit a report containing a narrative section describing:

- the recruitment efforts that has taken place to attract academically talented students;
- efforts made to enhance the sophistication and sensitivity of the campus' dialogue with these students as they are evaluating the institutions they may choose to attend;
- efforts made to understand and respond to the particular needs and goals of these students once they have enrolled at the University, including efforts made to extend a model of personalized attention to them, including the individualized Honors program;
- the results of efforts to create stimulating academic experiences;

and a data section indicating:

- the total dollar amount of Mission Review funding allocated to merit scholarships;
- The number and average dollar value of these awards; and the range and distribution of SAT (or ACT) scores of students receiving these awards;
- The number of prospective Buffalo students in Selectivity Group 1 who applied to the University, were accepted, enrolled, and who returned as sophomores;⁵

⁵ In the report at the end of the second year of funding.

- Changes in the size and academic profile of Buffalo's freshman admissions pool and its admissions rate, reflecting both a greater interest on the part of prospective applicants and Buffalo's increasingly selective admissions process;
- the progress towards the goal of a 5% increase in the percentage of the entering class that comes from the top ranks of high schools; and
- any changes in the number of high academic ability, out-of-state, freshmen.

B. Funding and Reporting Schedule

	Date	Notes and Conditions
Installment 1:	Fall 2000	Agreed upon Memorandum of Understanding.
Report 1:	Fall 2001	With Official Student Data File including freshman SAT (or ACT) scores and High School Averages.
Installment 2:	Fall 2001	Completion of Report 1.
Report 2:	Fall 2002	With Official Student Data File including freshman SAT (or ACT) scores and High School Averages.

C. Performance

This Mission Review award is performance-based and funding is dependent upon Buffalo meeting the following undergraduate selectivity benchmarks.

Selectivity

First-Time Full-Time by Selectivity Group

Selectivity Group		Fall 1999 (actual)	Fall 2000 (planned)	Fall 2001 (planned)	Fall 2002 (planned)	Fall 2003 (planned)
Regular Admits who have an SAT Score and a High School Average	Total	100.0%	100.0%	100.0%	100.0%	100.0%
	In Group 1	31.9%	34.5%	37.0%	40.0%	42.0%
	In Group 2	37.2%	42.5%	45.0%	48.0%	48.0%
	In Group 3	27.1%	21.5%	18.0%	13.0%	10.0%
	In Group 4	3.4%	1.5%	0.0%	0.0%	0.0%
	In Group 5	0.4%	0.0%	0.0%	0.0%	0.0%
Regular Admits who lack either an SAT (or ACT) score or a High School Average		3.8%	4.0%	5.0%	5.0%	5.0%
Special Admits (EOP or Other Risk) as a Percent of Total First-Time Full-Time		13.0%	13.5%	13.5%	13.5%	13.5%

Second-year funding is dependent specifically on Buffalo's commitment not to:

- Accept any freshmen in Groups 4 or 5, except as Special Admits;
- Exceed a level of 13.5% in Special Admits, a level of more than 2% over approved planning levels for transfer students, or a level of 5% of Regular Admits who lack either an SAT (or ACT) score or a High School Average. The growth from 4 to 5% in this category reflects Buffalo's goal of increasing its incoming international enrollments by between 20-30 students in 2001-02 consistent with its larger goal stated in the MOU to increase the size of its undergraduate international student population from 4.6% to 7.5% by 2004.