



University of Pittsburgh

Periodic Review Report

presented by:

University of Pittsburgh
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presented to:

Middle States
Commission on Higher Education

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Reaffirmation of Accreditation
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CURRENT INSTITUTIONAL CATALOG URL LINKS

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| Pittsburgh Campus Undergraduate Bulletin | |
| http://www.univ-relations.pitt.edu/bulletins/undergrad/index.html | |
| Pittsburgh Campus Graduate and Professional Bulletin | |
| http://www.unc.pitt.edu/bulletins/graduate/index.html | |
| Bradford Campus | |
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Middle States Commission on Higher Education

**Certification Statement:
Compliance with MSCHE Eligibility Requirements
& Federal Title IV Requirements**

An institution seeking initial accreditation or reaffirmation of accreditation must affirm that it meets or continues to meet established MSCHE eligibility requirements and Federal requirements relating to Title IV program participation by completing this certification statement. *The signed statement should be attached to the Executive Summary of the institution's self-study report.*

If it is not possible to certify compliance with all eligibility requirements and Federal Title IV requirements, the institution must attach specific details in a separate memorandum.

The University of Pittsburgh is seeking:

(Check one) **Reaffirmation of Accreditation** Initial Accreditation

The undersigned hereby certify that the institution meets all established eligibility requirements of the Middle States Commission on Higher Education and Federal requirements relating to Title IV program participation.

Exceptions are noted in the attached memorandum
(Check if applicable.)

(Chief Executive Officer)

(Date)

(Chair, Board of Trustees or Directors)

(Date)

CHAPTER ONE: EXECUTIVE SUMMARY

INTRODUCTORY OVERVIEW OF THE INSTITUTION

The University of Pittsburgh of the Commonwealth System of Higher Education is a nonsectarian, coeducational, state-related, public research university made up of five campuses located throughout Western Pennsylvania. The Pittsburgh Campus, located in the cultural and medical center of the city of Pittsburgh, is within an hour's commuting distance for the metropolitan area's 2.4 million people. The Johnstown Campus, a four-year undergraduate college in Cambria County, serves the region at the foothills of the Allegheny Mountains. The Bradford Campus, a four-year undergraduate college located in the Allegheny Mountains at the Pennsylvania-New York border, serves the predominantly rural areas of Western Pennsylvania and Western New York. The Greensburg Campus is a four-year undergraduate college located east of Pittsburgh that serves Westmoreland County and the Eastern Pittsburgh areas. The Titusville Campus is a two-year college located in Northwestern Pennsylvania.

The University was founded in 1787 as a small, private school named The Pittsburgh Academy and was located in a log cabin near the confluence of Pittsburgh's three rivers. In 1819, it was renamed The Western University of Pennsylvania and then renamed again, in 1908, as the University of Pittsburgh. The Johnstown Campus was established in 1927, while the Bradford, Greensburg, and Titusville Campuses were established in 1963, completing the five campuses that now comprise the University of Pittsburgh System. The University of Pittsburgh remained private until becoming a public, state-related institution in 1966 and was renamed the University of Pittsburgh of the Commonwealth System of Higher Education.

The University is the most comprehensive educational complex in Western Pennsylvania, enrolling more than 33,000 students. The Pittsburgh Campus, located in Allegheny County, offers certificate, baccalaureate, master's, first professional, and doctoral programs. The campuses in Johnstown and Bradford offer certificate, associate, and baccalaureate programs. The Greensburg Campus offers certificate and baccalaureate programs, while the Titusville Campus offers certificate and associate programs and other lower-division curricula. In total, the University offers more than 400 distinct degree programs and additionally offers numerous dual, joint, and cooperative degree programs.

The University Board of Trustees is responsible for advancing the purposes of the University; promoting and protecting its independence, academic freedom, and integrity; and enhancing and preserving its assets for the benefit of future generations of students and society at large. The complete membership of the Board includes the Chancellor, and four categories of trustees: Term (17); Special (15); Alumni (6); and Commonwealth (12) for a total of 51 members. The Governor of Pennsylvania, the Commonwealth Secretary of Education, and the Mayor of the City of Pittsburgh serve as ex-officio members without vote.

The Board of Trustees delegates general administrative, academic, and managerial authority to the Chancellor of the University. The Provost and Senior Vice Chancellor is responsible for general academic policies and standards, and for overall academic matters in all schools and colleges, regional campuses, and centers. Schools of the health sciences report to the Senior Vice Chancellor for the Health Sciences.

The University employs a total of 3,976 full-time and 830 part-time faculty. More than 88% of the total full-time faculty have doctoral or first professional degrees. The University also employs 6,851 staff and 394 research associates.

The Commonwealth of Pennsylvania uses a model of financing for state-related universities that relies heavily on tuition revenues offset by direct state aid to students. The University receives an appropriation from the Commonwealth of Pennsylvania each year that accounts for close to one-eighth of total revenues. While this model of state support necessitates a tuition rate that is among the highest in the country among public institutions, it is still far below typical tuition rates at private universities. Total actual FY 2006 University expenditures were just over \$1.4 billion.

APPROACH TO THE PREPARATION OF THE PERIODIC REVIEW REPORT

The challenge to writing this periodic review report was determining which successes from recent years to include. By all measures, the University of Pittsburgh is a remarkably better institution today than ever in its history. In the not-too-distant past, the University took great pride in being chosen to join the Association of American Universities. Now, the vision of the University is to become a leader in that prestigious group. That said, everyone concerned with the continued success of the University knows that the challenges facing higher education are daunting. Therefore, the approach taken to writing this report has been one in which recent accomplishments are presented not just to celebrate their positive outcomes, but also to motivate a continuation of the creativity and hard work that will be needed in the years ahead.

SUMMARY OF MAJOR CHANGES AND DEVELOPMENTS

Fueled by a determined effort from committed faculty and staff, hard working students, loyal alumni, and devoted friends and Trustees, the University made extraordinary progress in recent years. From far higher numbers of applicants, to better-qualified students enrolling, to dramatically elevated levels of research support, the University's reputation as a world-class public research university is climbing. As recently as 1997, the University was not even listed among the top public national universities in the *U.S. News and World Report* annual ranking. After debuting at number 48 in 1998, the University rose to 19th last year – a clear sign of momentum.

At the recent Honors Convocation, Chancellor Nordenberg emphasized that the quality and reputation is judged through the lens of commonly accepted sentiment: "We all are judged by the company we keep." The University ranks in the uppermost tier of U.S. public research universities according to *The Top American Research Universities*, the recently issued 2006 annual report of The Center for Measuring University Performance. The report places the University in the company of only six other leading public research universities: the University of California at Berkeley, the University of California at Los Angeles, the University of Illinois at Urbana-Champaign, the University of Michigan at Ann Arbor, the University of North Carolina at Chapel Hill, and the University of Wisconsin at Madison. Key triumphs continue to mount, examples of the recognition of the progress being made.

In terms of the development of student potential, the University's most fundamental mission, a few months ago Daniel Armanios was named a 2007 Rhodes Scholar, and Anna Quider was named a 2007 Marshall Scholar. Only a dozen institutions can claim to have produced both a Rhodes Scholar and a Marshall Scholar this year – the three national service academies (West Point, Annapolis, and the Air Force Academy) and nine universities. Those nine universities are Cornell, Duke, Georgetown, Harvard, NYU, Pittsburgh, Princeton, Washington University, and Yale. That is very good company to be keeping, and it is worth noting that the University of Pittsburgh is the only public university on the list.

While winning both a Rhodes Scholarship and a Marshall Scholarship in a single year is unusual, the fact that the University stands out as one of the country's most consistent producers of high-achieving students is not. Instead, it has become a defining institutional quality. That quality is reflected in the fact

that the University has been Pennsylvania's leading producer of Rhodes and Marshall Scholars over the past quarter-century. It is reflected in the fact that Prince Andrew visited the University as a Marshall Center of Excellence and said:

“In the past five years, the University of Pittsburgh has won more Marshall scholarships than any other state-related university in the United States. And in the Marshall competition, its candidates have regularly outperformed students from some of America's most famous universities, including Harvard, Yale, Princeton, and the University of Pennsylvania.”

That quality also is seen in the recent designation of the University as one of the country's top producers of Fulbright Award-winning students. But the durable nature of that quality is most clearly evidenced by the University's record, since 1995, of producing two Rhodes Scholars, six Marshall Scholars, four Truman Scholars, four Udall Scholars, one Churchill Scholar (selected just last year in the first year of eligibility), three Mellon Humanities Fellows, and 27 Goldwater Scholars.

The University ranked seventh nationally in National Institutes of Health support in FY 2005. The top 10 consists of Harvard, Johns Hopkins, Penn, the University of Washington, the University of California at San Francisco, UCLA, Pittsburgh, Washington University, Michigan, and Duke. The University was the country's top-ranked institution – by some considerable margin – in support received from the National Institute of Mental Health. In terms of total federal obligations for science and engineering research and development, the University ranked 12th nationally in FY 2004.

In international education, all four of the University's area studies programs and its International Business Center were competitively re-designated National Resource Centers by the U.S. Department of Education. There are only 10 other universities, public or private, that have four or more programs that have won National Resource Center designation. They are Berkeley, Chicago, Columbia, Illinois, Indiana, Michigan, Texas, Washington, Wisconsin, and Yale. And, on the home front, the president of the New England Board of Higher Education issued a list of “best neighbor” urban colleges and universities that, to use his language, had “dramatically strengthened the economy and quality of life of their neighboring communities.” He called these institutions the “Saviors of our Cities.” Only seven AAU-member research universities made that list: Case, Chicago, Carnegie Mellon, Emory, Penn, Pittsburgh, and Southern California.

The University is good at managing resources, as well as attracting them. Recently, the National Association of College and University Business Officers released a survey showing percentage increases in the market value of college and university endowments. The University ranked fourth among U.S. public universities with endowments in excess of \$1 billion and 10th among all universities, public and private, with endowments of that size. This top 10 list included Tufts, Wisconsin, MIT, Northwestern, Penn, Notre Dame, Washington, Yale, North Carolina, and Pittsburgh. As is true with any of these lists, it is important to think both about the quality institutions that made them and the very fine universities that did not.

ABSTRACT OF HIGHLIGHTS

Regarding undergraduate education, the University has:

- succeeded in increasing the quality of the academic profile of its undergraduate student body, recruiting students appropriate to the mission and character of each of its five campuses;
- installed a comprehensive commitment to educating the whole student;

- initiated a wide range of integrative opportunities throughout the collegiate experience;
- expanded curricular options in response to student interest and workforce demands; and
- been recognized for these efforts in national rankings and student awards.

In graduate and professional education, the University has:

- remained a national leader in the education of graduate students and postdoctoral scholars;
- broadened its array of master's, professional, and doctoral degree programs; and
- enhanced recruitment efforts and the management of financial aid resources.

In the fields of research, the University has:

- maintained and continued to enhance its international reputation for excellence;
- highlighted key areas of multidisciplinary research, building upon established discipline-based strengths; and
- assembled a world-class research library, facilities, information technology infrastructure, and administration to support research activities.

Key to the growth of excellent undergraduate and graduate education and research is a faculty that is:

- larger and more diverse;
- provided with an array of support programs and skills development opportunities; and
- compensated at levels competitive with peer institutions.

In terms of assessment, the University is committed to a broad range of activities, including:

- the development of a University-wide culture of assessment, building on the Assessment Plan reported in the 2001 self-study;
- extensive compilation and application of institutional and unit-level benchmarking data and analyses; and
- documentation of student learning outcomes and evaluation of student satisfaction.

Continuing its traditional commitment to open and participative planning and budgeting, the University has:

- continued to provide the University community with enhanced management information;
- outlined a second comprehensive facilities plan, building on previous success;
- maintained an ongoing information technology plan to keep pace with the environment of rapid change and the demands of students, faculty, staff, and administrators; and
- evaluated management processes to ensure achievement of the goals of the Planning and Budgeting System.

CHAPTER TWO: RESPONSE TO RECOMMENDATIONS

No formal recommendations were made in the June 2001 Final Report of the Evaluation Team representing the Middle States Commission on Higher Education. Evaluators Thomas Jackson and his colleagues provided a valuable report that validated the positive changes that had already occurred as well as the directions in which the University was headed.

Although there were no formal recommendations requiring institutional response from the 2001 report, the University of Pittsburgh has taken the suggestions and comments raised throughout that process seriously. Evidence of these suggestions from the 2001 report are included throughout the text of this report, all of which have been acted upon and accomplished with noteworthy results.

CHAPTER THREE: MAJOR CHALLENGES AND OPPORTUNITIES

MISSION AND GOALS

In February 1995, the Board of Trustees challenged the faculty, staff, and administration to make the University of Pittsburgh one of the nation's preeminent research universities – an institution that provides high-quality undergraduate and superior graduate programs; is engaged in research, artistic, and scholarly activities that advance knowledge and transfers that knowledge in science, technology and health care; offers continuing education programs; and relates to the surrounding community. The formal mission statement, as adopted in 1995, articulates this challenge (see Figure 1).

Figure 1: Mission Statement of the University of Pittsburgh

Approved by the Board of Trustees on February 16, 1995

The University of Pittsburgh, founded in 1787, is one of the oldest institutions of higher education in the United States. As one of the nation's distinguished comprehensive universities, the resources of the University constitute an invaluable asset for the intellectual, economic, and social enrichment of Pennsylvania, while the international prestige of the University enhances the image of Pennsylvania throughout the world.

The University's mission is to:

- provide high-quality undergraduate programs in the arts and sciences and professional fields, with emphasis upon those of special benefit to the citizens of Pennsylvania;
- offer superior graduate programs in the arts and sciences and the professions that respond to the needs of Pennsylvania, as well as to the broader needs of the nation and the world;
- engage in research, artistic, and scholarly activities that advance learning through the extension of the frontiers of knowledge and creative endeavor;
- cooperate with industrial and governmental institutions to transfer knowledge in science, technology, and health care;
- offer continuing education programs adapted to the personal enrichment, professional upgrading, and career advancement interests and needs of adult Pennsylvanians; and
- make available to local communities and public agencies the expertise of the University in ways that are consistent with the primary teaching and research functions and contribute to social, intellectual, and economic development in the Commonwealth, the nation, and the world.

The trustees, faculty, staff, students, and administration of the University are dedicated to accomplishing this mission, to which they pledge their individual and collective efforts, determined that the University shall continue to be counted among the prominent institutions of higher education throughout the world.

In response to this challenge, the University established strategic long-term academic goals that guide efforts toward realizing its academic vision. These goals provide an overarching guide to all planning, budgeting, and management decision making.

- Become one of the nation's top 25 research universities.
- Offer truly superb undergraduate experiences in a research university of nationally recognized stature.
- Nurture a world-class environment which results in increased sponsored research and scholarly and creative output.
- Strategically develop areas of excellence in collaborative research scholarship.
- Take advantage of academic opportunities available in an urban environment.
- Become engaged with external constituencies with whom we have common goals and interests.
- Expand the University's global focus by increasing international study and research opportunities.

UNDERGRADUATE EDUCATION

As demonstrated in the 2001 self-study, the University has committed to providing an outstanding undergraduate experience. To this end, the University seeks to recruit to each campus those students best able to take advantage of the opportunities available at that campus; and to provide high-quality academic and co-curricular programs that take advantage of the institution's and the individual campus' strengths, character, and location in ways that support the education of the whole student.

Recruiting students appropriate to the mission and character

Through its system of five campuses, the University is able to offer a broad range of experiences that are appropriate to a wide variety of students. Over the past 10 years, the University has increasingly worked to identify and communicate the distinguishing characteristics of each campus, in order to recruit to each campus those students who are best able to take advantage of the undergraduate programs offered. The Pittsburgh Campus offers the opportunity to study at a major research university located in a large urban area. The University of Pittsburgh at Johnstown is a small, liberal arts college with a regional reputation, located in the scenic, rural, Laurel Highlands. The University of Pittsburgh at Bradford is a small, comprehensive institution that offers a range of educational programs aimed at supporting the workforce needs of Northwestern Pennsylvania. The University of Pittsburgh at Greensburg, located 35 miles southeast of Pittsburgh, is a close-knit academic environment that focuses on the individual yet provides close access to the resources of the main campus. The University of Pittsburgh at Titusville is a two-year, associate degree institution that provides higher educational opportunities to the Oil Creek Region.

Total undergraduate enrollment of the University has increased gradually over the past decade and is virtually unchanged since 2000. The relative stability since 2000 masks the increased enrollments on the regional campuses, and a slight decline in enrollments on the Pittsburgh Campus. During this time, increased applications allowed the regional campuses to expand enrollments while maintaining and building the quality of their academic programs. At the same time, the University has focused on building the academic reputation of the Pittsburgh Campus by attracting students best prepared to take advantage of the educational opportunities available at a major research university.

Over the past 10 years, the academic profile of the undergraduate students enrolling on all campuses of the University has changed profoundly, and the change is most evident on the Pittsburgh Campus. As applications for admission more than doubled, the University experienced an accompanying improvement in the academic qualifications of the incoming classes based on a range of measures including SAT

scores, high school rank, and advanced course work. On the Pittsburgh Campus a carefully constructed and executed recruitment plan increased the total number of applications from less than 8,000 in 1995 to almost 19,000 in 2007, and the acceptance rate has fallen from 79% to 56%. Through similar marketing efforts, each of the regional campuses has built their own recruitment bases that expand beyond Western Pennsylvania, reducing their reliance on referrals from the Pittsburgh Campus. As a result of these efforts, there has been an increase in the number of applications, qualifications, and selectivity of both resident and nonresident students. This has resulted in a five percent increase in the number of Pennsylvania residents enrolled at the University from 19,887 in 1996 to 20,934 in 2006, and an increase in the proportion of out-of-state students from 10% in 1996 to 13% in 2006.

Looking to the future, the number of high school graduates in Western Pennsylvania began to decline several years ago, and the overall number in Pennsylvania is expected to peak in the next few years. The strategy the University has followed over the past decade of building the academic reputation of its undergraduate programs, and developing recruitment strategies that expand the applicant base beyond Western Pennsylvania should allow the University to maintain enrollments and the quality of programs despite the impending demographic shifts.

Educating the whole student

In 1996, the Board of Trustees specifically challenged the University to develop undergraduate programs befitting a truly great, public university. This challenge was articulated in the 1996 Board of Trustees Resolution on Undergraduate Education in Figure 2. Curricular reform throughout the University over the past five years has had a large component of emphasis on developing specific skills that are foundational. These efforts have been guided by the commitment that every University graduate, regardless of the degree earned or the year in which that degree is earned, will leave with the following qualities.

Communications skills. University graduates should be known as people who write and speak well. They need to be comfortable with computers and technology, and aware of the variety of cultures in the world, including the diversity of our own country. This will make them not only better employees, but also better citizens.

A sense of self. University graduates should be reflective people who have thought long and hard about their personal, professional, and academic goals. The University offers a range of opportunities and support to help students develop a sense of self and their relations to the society around them both in the city and around the globe, such as the Pitt Pathway program (<http://www.careers.pitt.edu/pathway.html>), which is designed to organize the student's use of advisors and support programs to enhance the student's development and overall success. It is a way for both the student and the advisor to track how the student will make the most of her years here.

Motivation. The curriculum at the University is a well-planned course of strong academic work which, with proper student motivation, should prepare students to be exceptionally well-informed, clear in their thinking and adept at pursuing the mastery of their fields of choice. In order to enlist them in their own education, students are encouraged to seek the proper motivation by participating in a variety of stimulating experiences, from beneficial internships, to international education and study abroad programs, to connections with the city of Pittsburgh through the PittArts program (<http://www.pitt.edu/~pittarts/>) and easy access to other offerings.

Figure 2: Board of Trustees Resolution on Undergraduate Education

The University of Pittsburgh's most basic and historic instructional responsibility is to achieve and sustain excellence in undergraduate education. Over the course of two centuries, the University has been the "college home" for tens of thousands of baccalaureate students – providing each with the opportunity, through the development of his or her own potential, to create a foundation for a richer and more productive life. In the recent past, however, Pitt has come to be better known for the quality of its graduate and professional programs.

To achieve a more desirable programmatic balance, to fulfill its institutional mission, and to increase its overall stature, it is essential that the University place special emphasis on undergraduate education in the months and years ahead. More specifically, it is necessary that attention, energy, and appropriate resources be devoted to the following areas:

1. increasing the academic standards for its undergraduate programs;
2. adopting appropriate standards to ensure that all undergraduate students, regardless of the bachelor's degree of their choice, achieve the levels of quantitative (mathematics and computer literacy) and communicative (written and oral) skills essential to success in our modern global society and are well prepared for their chosen life path and to be informed and involved citizens in 21st century America;
3. improving the quality of student life – especially regarding residence life, campus recreation, and academic and career advising – to ensure that the University is competitive with the nation's best public undergraduate programs; and
4. increasing recent successes in attracting, retaining, and graduating a more diverse (multicultural, racial, geographic, etc.) undergraduate student body; and extending this effort to include students from around the world in Pitt's undergraduate degree programs; and encouraging more Pitt students to include study-abroad experiences in their own undergraduate planning.

Resolved: The Board directs the Chancellor of the University to develop with the highest sense of urgency and recommend to the Board of Trustees, by December 31, 1996, a plan and time-table for addressing each of the above areas to the end that the University of Pittsburgh undergraduate programs compare favorably within the Association of American Universities. The plan should identify the costs associated with its implementation, together with a description of expected ongoing benefits.

The trustees, faculty, staff, students, and administration of the University are dedicated to accomplishing this mission, to which they pledge their individual and collective efforts, determined that the University shall continue to be counted among the prominent institutions of higher education throughout the world.

A sense of responsibility. Most of all, the University produces clear-thinking individuals who feel a responsibility to society, by providing volunteer opportunities and encouraging students to get involved with the community. Graduates should be aware of society's challenges and participate in meeting them.

Following the passage of the Board of Trustees resolution regarding undergraduate education, every undergraduate school and campus except the School of Arts and Sciences conducted a thorough review of their general education curriculum and the resulting curricular reforms were discussed in the 2001 self-study. The School Arts and Sciences completed its review after the self-study and curricular revisions were adopted by the faculty at a 2004 meeting. The key elements of the Arts and Sciences curricular reform are consistent with those adopted by the other schools and campuses. In particular, as a result of these curricular reviews and reforms, on all campuses and in all schools there is a greater emphasis on supporting the development of foundational skills through courses offered throughout the curriculum, and on providing opportunities both inside and outside the classroom that allow students to integrate the skills and knowledge they acquire through individual courses, programs, and experiences.

In November 2006, the Council of Deans reinforced these expectations by endorsing a set of learning outcomes expected of every graduate of the University and requiring that each school and campus' goals for student learning outcomes be consistent with University-level goals (see Figure 3).

Figure 3: Council of Deans' Learning Outcomes

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| <p>Students should be able to:</p> <ol style="list-style-type: none">1. think critically and analytically;2. gather and evaluate information effectively and appropriately;3. understand and be able to apply basic, scientific and quantitative reasoning;4. communicate clearly and effectively,5. use information technology appropriate to their discipline;6. exhibit mastery of their discipline;7. understand and appreciate diverse cultures (both locally and internationally);8. work effectively with others; and9. have a sense of self, responsibility to others, and connectedness to the University. |
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Foundational skills

On all campuses, the development of foundational skills is achieved through a mix of required general education courses designed to lay the foundation for developing these skills, and reinforcement of those skills through content infused throughout the curricular and co-curricular experiences. Writing and quantitative reasoning programs on all campuses are in various stages of review. The Bradford Campus, for example, recently completed its review and is incorporating recommended changes into its curriculum. The assessment of the writing program on the Pittsburgh Campus is discussed in Chapter Four. In addition to these curricular reviews, and in part as a result of these reviews, several investments have been made to strengthen the course offerings and related support services.

On the Pittsburgh Campus, academic support services were reorganized in Fall 2005. In this reorganization, academic support previously offered through the Division of Student Affairs and by various units of the Arts and Sciences were combined and administratively relocated in Arts and Sciences to provide greater oversight by the academic departments. The reorganization resulted in a new Academic Resource Center (ARC) and Math Assistance Center (MAC) in addition to the existing Writing

Center, and all three were relocated to large, newly remodeled and centrally-located spaces that are in close proximity to each other, and services were expanded. The new Math Assistance Center is located in the Math Department allowing faculty and graduate students to hold office hours in the MAC along with an expanded peer tutoring program that supports a full range of mathematics courses from the primary target of pre-calculus to calculus and upper-level undergraduate courses. The Writing Center was relocated from its cramped space in the Cathedral of Learning to expanded, more centrally located space close to the MAC. The new Academic Resource Center provides a comprehensive set of academic support services including study skills workshops, study groups, and tutoring.

On the Greensburg Campus, a new Academic Intervention and Monitoring program was introduced in Fall 2004. This program, aimed at students on probation and other at-risk students, includes a comprehensive assessment of student needs, frequent meetings with academic advisors, and a series of workshops on topics such as learning support resources, study skills, time management, and stress management. In Fall 2006, the Johnstown Campus implemented a similar program called the First Year Support Program targeting students with special academic needs. The first year of the program was extremely successful with a student success rate that mirrored that of the entire freshmen class. Over the past two years, the Bradford Campus expanded academic support programs through a U.S. Department of Education TRIO grant award that funds additional student support services for low-income and first generation students, and students with disabilities.

New curricular initiatives focused on development of foundational skills have also resulted in the reallocation of faculty resources in support of these goals. On the Pittsburgh Campus, faculty positions have been added to reduce the size of introductory writing, public speaking, and language classes from 25 to less than 20. The communication across the curriculum initiative on the Pittsburgh Campus has been supported by the addition of three new faculty hires and a faculty seminar designed to help faculty integrate writing and public speaking into existing courses. To date, over 50 faculty members have participated in this seminar.

Freshman programs

The 2001 self-study described a variety of programs available to help integrate first-year students into the life of the University, including freshman orientation courses, freshman seminars, and living-learning communities. These opportunities have expanded over the past few years as schools and campuses expanded existing programs and introduced new programs. The Johnstown Campus, for example, has added a more substantive academic component to its freshman orientation courses, following a model that has been successful on several other campuses; the Greensburg Campus piloted a living-learning community and introduced peer leaders and a service learning component to their freshman orientation seminar; and new learning communities were offered on various campuses.

The most notable recent additions to freshman programs have been the development of non-residential learning communities, and first experiences in research as options to integrate the in class and out of classroom activities. Both the Pittsburgh and Greensburg campuses have piloted non-residential freshman learning communities organized around academic themes. Each community consists of approximately 20 freshmen, a peer mentor, and a staff or faculty coordinator. Students in each community enroll in a common set of courses related to the community theme, and participate in co-curricular activities such as study groups and cultural events that complement these courses. The initial pilot on the Pittsburgh Campus in Fall 2005 enrolled 120 students in six communities. In Fall 2007, the Campus plans 21 communities with anticipated total enrollment of 420. The Greensburg Campus pilot in Fall 2006 enrolled 20 students and student surveys found that the integrated learning community was more successful in integrating students into the academic life of the campus than the traditional stand-alone freshman seminar.

The First Experiences in Research program that pairs second-term freshmen as research assistants with faculty is another new program aimed at integrating freshmen into the academic life of the University. The program assists undergraduates in obtaining research skills, in defining academic interests and objectives, and in becoming part of the larger University research community. Since its start, participation has increased from 40 second-term freshmen in Spring 2004 to over 100 in Spring 2007.

Integrative experiences

A common component of the curricular reforms is the increased emphasis on providing opportunities for students to integrate skills and knowledge they have acquired in classrooms and to apply them to some new, less-familiar setting through internships, undergraduate research, service learning, study abroad, and other capstone courses and experiences. All campuses and schools at the University provide a variety of opportunities to participate in experiential learning and many of these were highlighted in the 2001 self-study. Several of those programs have been expanded in recent years. The College of Business Administration, for example, has expanded the internship opportunities available to its students, and now encourages each student to participate in a series of three internships designed in a structured way to complement the College's curriculum. Similarly, service learning opportunities have increased across all campuses. As mentioned earlier, the Greensburg Campus has introduced a service component into its Freshman Seminar, and a new initiative on the Pittsburgh Campus supports faculty incorporating service learning projects into existing courses.

Undergraduate research has been a particular emphasis on all campuses over the past five years. For many students, working on a research project with a faculty member contributes greatly to their success both at the University and after they graduate. The experience not only helps them develop skills as researchers, it draws them into the academic community; it helps them to clarify their goals and aspirations; and it helps them achieve those goals. Over the past five years, the University has expanded several successful undergraduate research programs and developed new programs to promote undergraduate research. The undergraduate research Web site <http://www.pitt.edu/~UGR/index.html> provides information on these programs. The University has cultivated a substantial undergraduate research community on the Pittsburgh Campus during the summer through the Brackenridge Fellowship program and the efforts of individual faculty members who support summer research experiences for undergraduates. Undergraduate researchers live together in a residence hall over the summer, and participate in common activities including a Friday seminar where members of the Fellowship present their research to the community. During the academic year, undergraduate research is encouraged through faculty mentorship of undergraduate research projects supported by faculty research grants, and small University sponsored research grants. A new undergraduate research living-learning community on the Pittsburgh Campus offers another opportunity for undergraduates to engage in faculty research and illustrates the ways in which the University strives to integrate the academic and student life experiences.

The University also has made a concerted effort in recent years to bring the good work done by undergraduate students to the attention of the greater University community and to the surrounding regional areas. In March 2007, 12 undergraduate students presented their research at the State Capitol in Harrisburg and met with legislators to discuss the importance of the undergraduate research experience. Undergraduate student researcher profiles appear on the University's Web site and in University publications. Video spots that highlight specific students' research are shown regularly during football and basketball games (<http://www.pitt.edu/~UGR/profiles.html>) and the Brackenridge scholars were honored by the Chancellor and the Provost on the field during halftime at a football game this past November. For the past two years, the campuses have celebrated Springboard to Insight and Discovery, a month-long celebration during April of undergraduate research which includes several undergraduate research events with student presenters from a diverse array of disciplines

(http://www.pitt.edu/~provost/undergrad_research.html). These efforts are intended to validate the work done by the students and to educate the greater community on the importance of the undergraduate research experience.

The Office of Experiential Learning, which opened on the Pittsburgh Campus in 2004, connects undergraduates with opportunities to earn credits outside the classroom by engaging in internships, service projects, research, and teaching. Currently, nearly 75% of graduating seniors on the Pittsburgh Campus report having had either an internship or an undergraduate research experience.

The Competitive Edge program was developed for sophomore students and piloted this year in the new residence hall, Panther Hall. It includes a number of programs designed to provide students with a competitive edge as they make their way toward the job marketplace or to graduate/professional school. The specific programs in the Competitive Edge include the following:

- Academic Rush, bringing together students undecided as to a major and representatives from academic departments on campus with the intention of creating meaningful dialogue which could help students make decisions related to specific majors;
- Graduate School Entrance and Exam Preparation workshops;
- Study-Abroad opportunities during spring break – a week-long experience in Paris studying race relations in France offered in partnership with the Center on Race and Social Problems in the School of Social Work;
- Cross-cultural competencies – a series of multicultural workshops for residents of Panther Hall; and
- Campus Coach Mentoring Program – staff, faculty, and alumni serving as mentors for individual floor communities within Panther Hall. Mentors are invited to participate in a series of in-hall programs designed to promote interaction between students and their Coach mentors.

In addition to these programs offered for all residents, there are four separate living-learning communities centered on themes such as entrepreneurship (in partnership with the College of Business Administration), and service learning (in partnership with faculty from the School of Social Work and the Graduate School of Public and International Affairs). Based on the overwhelming success of the residence hall, the competitive edge program will be expanded to all upper-class residence halls in Fall 2007, and the number of living-learning options for upper-class students will be expanded.

New opportunities to integrate the different skills and knowledge have also been infused into the curriculum. The list of newly approved undergraduate majors, minors, and certificates in Figure 4 shows a preponderance of structured opportunities for interdisciplinary study, and nearly all degree programs at the University have developed or expanded capstone experiences for their students over the past five years.

Figure 4: Newly Approved Undergraduate Majors, Minors and Certificates

Arts and Sciences

- Majors in Actuarial Mathematics (2006); Economics and Statistics (2003); Italian Studies (2006); and Slavic Studies (2004)
- Minors in Applied Statistics (2002); Chemistry (2004); Computer Sciences (2005); Film Studies (2007); Japanese (2002); Mathematics (2006); Portuguese Language and Luso-Brazilian Culture (2005); Slovak Studies (2003); and Theatre Arts (2002);
- Certificates in American Sign Language (2002); Leadership (2006); and Public and Professional Writing (2003)

Business Administration

- Certificate in Leadership and Ethics (2003)

Education

- Minors in Aerobics (2002); Aerobics/Fitness (2002); Aquatics (2002); Coaching (2002); Dance (2003); and Fitness (2002)

Engineering

- Certificates in Product Realization (2002) and Sustainable Engineering (2003)

General Studies

- Certificates in Corporate/Community Relations (2005); Digital Media (2005); and Writing for the Professions (2005)

Health and Rehabilitation Sciences

- Certificates in Assistive Technology in Rehabilitation; Emergency Medicine in Rehabilitation; Pathokinesiology in Rehabilitation; Psycho-Social Issues in Rehabilitation and Personal Care (2004)

Social Work

- Minor in Social Work (2006)

University Center for International Studies

- Major in International and Area Studies w/ Honors College (2005)
- Certificates in European Union Studies (2003) and Global Studies to Non-Pitt Students on Semester at Sea (2002)

Bradford Campus

- Majors in Accounting (2006); Athletic Training (2002); Engineering Science (2006); Entrepreneurship (2005); Health and Physical Education, K-12 (2006); Hospitality Management (2006); Interdisciplinary Arts (2005); Elementary Education (2006); and Secondary Education (2006)
- Minors in Education, Non-Teaching (2002) and Marketing (2006)

Greensburg Campus

- Majors in Interdisciplinary Arts (2003) and Management Information Systems (2002)
- Minors in Accounting; Actuarial Sciences; Chemistry; Computer Science; Education; English Literature; English Writing; Environmental Science; Gender Studies; History; History of Art and Architecture; Music; Philosophy; Political Science; Psychology; Sociology; Spanish; Statistics; and Theater (all in 2007)

Johnstown Campus

- Minors in Art History (2005); Music (2007); and Psychology (2007)
- Citizenship Education Certification Program (2002)

Titusville Campus

- Associate of Science Degree in Nursing (2004)

Multicultural experience

The new Cross-Cultural and Leadership Center on the Pittsburgh Campus provides a systematic way to assist students in making connections between the various programs offered across campus and the attainment of cross-cultural experiences. The unit collaborates with the various schools to promote the development of cultural awareness among all students and provides students with support as they decide who they want to become, all the while instilling a sense of understanding and responsibility to those who are different and who think differently. The Johnstown Campus diversity working group has developed a multi-faceted agenda of activities on campus designed to promote and celebrate diversity in the learning environment, including a range of speakers on campus, and events such as the Worlds of UPJ Diversity Fair and the Diversity of Vision Art Show. Cultural awareness is also fostered through the curriculum, and the curricular offerings that incorporate diversity have been expanded in recent years through the very successful diversity workshop.

The Pittsburgh Campus also continues to make progress towards the goal of making the city more a part of the student experience, while simultaneously making the campus experience more engaging and vibrant. Beginning with freshmen orientation, students are exposed to the many opportunities that the city provides to enrich their college experience and their lives. Through the PittArts program, students have free access to a wide array of artistic events throughout the city, including, among others, the Pittsburgh Public Theatre, the Pittsburgh Ballet, and the Pittsburgh Symphony. Each trip has a social aspect prior to the performance so that students can get to know each other better, and the trips include an additional educational component, such as pre-performance talks by actors, directors, or technical staff on the art of theater production. The response to this, and all other PittArts opportunities, has been exceptional. The number of Free Arts Encounter programs is now about 110 per year and last year connected 8,536 undergraduate students to the arts and culture of Pittsburgh, including free tickets, food and transportation, as well as a chance to meet some of the greatest thinkers and artists in the world of art. Free Visits last year for the Carnegie Institute, Phipps Conservatory, Mattress Factory Museum and Andy Warhol Museum alone totaled 20,746. In FY 2006, through the Cheap Seats Program, over 9,000 students, staff, and faculty bought deeply discounted tickets to the opera, ballet, symphony, theater and more. More than 2,000 students, mostly freshmen, enjoyed Residence Life PittArts programs known as Artful Wednesdays.

International education and study abroad

The University Center for International Studies (UCIS) hosts four National Resource Centers – East Asian Studies, Latin American Studies, Russian and East European Studies, and West European Studies – and the Center for International Business Education and Research. UCIS continues to support the development and teaching of new courses with international and area content University-wide. In large part through their efforts, participation in study abroad has increased notably at the University. According to the most recently available information, the Pittsburgh Campus has the sixth highest study abroad participation rate (25.6%) among the 34 AAU public institutions.

The University's study abroad options have been expanded in recent years through the introduction of short-term study abroad experiences that are integrated into existing classes. These are particularly attractive to students in professional programs, such as Engineering, who would like to have an experience abroad but cannot accommodate a full term in their schedule. The Plus3 program, winner of the 2005 Andrew Heiskell award for study abroad, is a joint effort between the College of Business Administration and the School of Engineering designed to facilitate students from the two units cooperating on projects that led to an increase interest in language and further study abroad. The success of Plus3 has led to a variety of other joint business/engineering international programs, and has encouraged the growth of other similar programs throughout the University.

Magellan, a new innovative global studies program is projected to begin in Fall 2008. Each semester-long *Magellan* program will focus on a specific global issue and will take place at sites in three different regions of the world, chosen from a pool of five sites, each representing one of the UCIS area studies programs. Students and faculty in the program will spend an average of four weeks at each site with air transportation between sites. The first and last weeks of the program will be in Pittsburgh. The program addresses the increasing academic interest in globalization as well as the need to establish learning abroad experiences relevant to students and faculty in the natural sciences, social sciences, humanities, and professional schools.

Enhancing the student experience

The Division of Student Affairs on the Pittsburgh Campus has experienced several changes in leadership over the past decade. In Fall 2002, the long-serving Vice Provost for Academic Affairs, Dr. Jack Daniel, stepped in to provide leadership upon the resignation of the then Dean of Students, who had served in the position for only one year. Under Dr. Daniel's leadership, the Division's activities were realigned in support of the goals the institution had established for its students, and the culture supportive of this realignment began to develop. With this realignment firmly in motion, in Fall 2004 Dr. Daniel announced his intention to step down at the conclusion of the academic year, and in Summer 2005 a new Vice Provost and Dean of Students arrived on the Pittsburgh Campus. Dr. Kathy Humphrey brought tremendous experience and enthusiasm that have revitalized the Division and student life on the Pittsburgh Campus. Under her leadership, the Division of Student Affairs developed a strategic plan based on core values consistent with those of the institution; a plan that articulates how Student Affairs will support the academic mission of the university by enhancing student learning, development of experiential learning opportunities, and working with members of the university community to develop programs and services that will add considerable value to the learning experiences that emanate from the classroom.

A particular focus in recent years has been to align the student life initiatives with the overall, educational goals the institution has for its students and as a result, many of the student life initiatives already have been discussed above. Other student life initiatives are discussed as part of the facilities and information technology plans in Chapter Five. Additional initiatives include a restructuring of Career Services. On each campus, Career Services has been much more engaged with students from the time they enter the University, and are more proactive in helping interested students to find employment upon graduation. The Pittsburgh Campus is experimenting with a new model in which employment specialists are embedded in the individual schools, where they can learn about the characteristics of students looking for employment as they learn about the needs of employers. This process of simultaneously looking at the needs of employers and the strengths of our students should result in better employment matches for our students, and more direct feedback from employers on the strengths and weaknesses of our curriculum.

Progress toward goals for undergraduate education

By many measures, the University has made tremendous progress toward its goal of offering high-quality undergraduate programs that serve the residents of Western Pennsylvania. The most commonly cited institutional benchmark of the reputation of undergraduate programs is that published by *U.S. News and World Report* magazine. Over the past decade, the Pittsburgh Campus ranking increased from 48th in 1997, to 19th among the top public national universities, and the Johnstown Campus has maintained its ranking of 3rd in the northern region in the Top Public Comprehensive Colleges category for the past several years. Though one could argue over methodology, the sharp increase in rankings suggests that the quality of the University's undergraduate programs is increasingly being recognized. The sharp increase in student retention and graduation rates, and the high levels of student satisfaction with the experience in

every school and campus of the University also support the contention (see Figure 11 and Appendix E). Another indicator of the progress achieved in recent years is the University's output of outstanding student scholars discussed in the Executive Summary of this document.

In summary, the University has succeeded in increasing the quality of the academic profile of its undergraduate student body and recruiting students appropriate to the mission and character of each of its five campuses. This accomplishment is due to the installation of a comprehensive commitment to educating the whole student, the initiation of a wide range of integrative opportunities throughout the collegiate experience, and an expansion of curricular options in response to student interest and workforce demands. For these efforts, the University is being widely recognized in national rankings and student awards.

GRADUATE EDUCATION AND POST-DOCTORAL TRAINING

Graduate students and postdoctoral scholars

The University is one of the country's leading educators of graduate students and postdoctoral scholars. In 2006, 412 students received doctoral degrees, 1,905 received master's degrees, and 514 received first professional degrees. In 2004, there were 723 postdoctoral scholars training with University faculty. According to a study by The Center for Measuring University Performance, this places the University in the top 25 public institutions nationally in the number of doctoral degrees awarded and in the top five in the number of postdoctoral researchers in training.

Overall, graduate and professional students made up 35.8% of the University's total student body on the Pittsburgh Campus in 2006; in 2002, they made up 34.1%. The percentage of graduate and professional students who are enrolled full-time has increased from 67.6% in 2002 to 69.7% in 2006. The graduate and professional student body is made up of 56% women, increased from 54% in 2002. Approximately 16% of the University's graduate and professional students are international students.

The number of master's and doctoral degrees awarded by the University has grown over the past five years. This growth is due to a variety of factors, including the creation of new graduate and professional programs and changes in recruitment strategies and financial aid for graduate students. The number of doctoral degrees awarded has grown from 336 in 2002 to 412 in 2006, and the number of master's degrees awarded in those same years has grown from 1,873 to 1,905.

Recently, the development of new programs has focused on interdisciplinary and professional degree programs (see Figure 5). The School of Arts and Sciences and the School of Medicine have developed several new interdisciplinary doctoral degree programs, including Molecular Biophysics, Computational Biology, and Integrative Molecular Biology. The School of Arts and Sciences and the School of Engineering have established a joint degree program in Computer Engineering. Students in these interdisciplinary programs have access to faculty members and other resources across both schools.

A number of professional degree programs also have been established to address growing demands for students working in research, government, and other professional positions. New professional programs include the Doctor of Nursing Practice, Doctor of Physical Therapy, Master of Public Health Policy and Management, and Master of Science in Mathematics.

The ability to successfully recruit new, highly qualified students is crucial to the continued success of our graduate and professional programs. To attract and retain top students, the University offers financial assistance through teaching assistantships, graduate student assistantships, graduate student researcher

positions, fellowships, and other scholarships. Stipends for assistantships are competitive in comparison to peer institutions, and students on assistantships receive tuition waivers. Annual raises to the stipends are made based on the overall University salary pool. Students on assistantships and University fellowships receive full health benefits, including a range of medical benefits, covered by the University at 100% for individuals. Students have the option of purchasing family health benefits as well as dental and vision benefits.

Graduate and professional programs within the University are reviewing their financial aid offerings for graduate students to ensure they are providing competitive packages to attract the best students. The Schools of Arts and Sciences, Law, and Social Work have recently shifted their financial aid awarding strategy following a review of their practices. The School of Arts and Science, for example, now offers multi-year funding opportunities that include a mix of assistantships, fellowships, and summer funding to attract and retain students to targeted programs. The School of Social Work also revised their financial aid awarding strategy to offer multi-year packages to students. The Schools of Engineering and Medicine are currently reviewing their financial aid. In fiscal year 2006, the University restructured graduate financial aid to accommodate the increased demand for tuition waivers for graduate research assistants related to the expansion of the University's funded research programs. This involved transferring several million dollars into the graduate financial aid budget, as well as restructuring the budgeting process.

To continue to attract the best students, programs must recruit aggressively, effectively communicate program strengths, and continue to offer competitive financial assistance. Recruitment efforts have been strengthened by University-wide investments in Recruitment-Plus and PeopleSoft student data systems, and through recruiting workshops for faculty and admissions staff members covering topics such as planning recruiting outcomes, building inquiry and applicant pools, and effectively communicating with prospective students. Investments have also been made in developing appropriate recruiting materials, including significant investments to overhaul websites and printed materials.

The University has an excellent record of attracting postdoctoral scholars from around the world. The University has made efforts to ensure that their experience is beneficial and continually improving. In 2005, the postdoctoral positions were regularized and a set of *Guidelines for Postdoctoral Associates and Postdoctoral Scholars* were established. The *Guidelines* provide standardized expectations about postdoctoral appointments, responsibilities, grievance procedures, research integrity, patent rights, salaries, and benefits. The School of Medicine now has an Associate Dean of Postdoctoral Education who oversees the postdoctoral experience in the Health Sciences, and each of the non-health science schools has designated an individual to serve the same function within their school. The University of Pittsburgh Post-Doctoral Association was formed in 2005 to support postdoctoral scholars.

Figure 5: Newly Approved Graduate Programs

Arts and Sciences

- Ph.D. in Hispanic Linguistics (2003); Computer Engineering, with Engineering (2004); Computational Biology, with Medicine (2005); Integrative Molecular Biology, with Medicine (2005); and Molecular Biophysics, with Medicine (2003)
- Master's in Hispanic Linguistics (2003); History Education, with Education (2007); Computer Engineering, with Engineering (2004); and Geographic Information Systems (2002)
- Certificate Program in Composition, Literacy, and Pedagogy (2003)
- Minor in Teaching in the Biological Science (2002)

Dental Medicine

- Certificate in Oral and Maxillofacial Pathology (2002)

Education

- Certificates in Educational Administration (2003); Educational Supervision (2003); Teaching Education (2003); Adapted Physical Education (2002); Youth Health and Fitness (2002); and Education Specialist Certificate (2003)

Health and Rehabilitation Sciences

- Doctor of Clinical Science in Speech Language Pathology (2004) and Doctor of Physical Therapy (2002)
- Master's in Sports Medicine/Nutrition (2004); Rehabilitation Counseling Area of Concentration (2002)

Business

- Two-year MBA (2003); MBA/MS Engineering (2004); and MSIE/MBA Industrial Engineering (2003)

Law

- JSD Program (2003)
- Certificates in Disability Legal Studies (2005) and Intellectual Property and Technology Law (2002)

Medicine

- Master's in Medical Education (2002)
- Certificate in Medical Education (2002)

Nursing

- Doctor of Nursing Practice (2006)
- Minors in Nursing (2004); Nursing Informatics (2002); and Research (2002)
- Post-Baccalaureate Certificates in Genetics in Healthcare (2004) and Healthcare Administration (2004)
- Certificates in Acute Care Nurse Practitioner; Adult Nurse Practitioner; Healthcare Administration; Nursing Education; Nursing Informatics; Pediatric Nurse Practitioner; Psychiatric Nurse Practitioner; and Women's Health Nurse Practitioner (all in 2002)

Public and International Affairs

- Major in Human Security (2006)
- Minors in Civil Security and Disaster Management (2006); Global Political Economy (2002); Human Security (2006); and Security and Intelligence Studies (2002)
- Certificate in Public Policy & Management (2002)

Public Health

- Master's in Public Health Genetics (2002); Dual Degree in Public Health Genetics and Genetic Counseling (2006); and MPH/MSW Joint Program, with Social Work (2006)
- Major in Public Health Policy and Management (2005)
- Certificates in Evaluation of Public Health Promotion and Health Education Programs (2006); Global Health (2004); LGBT Health and Wellness (2006); Minority Health and Health Disparities (2006); Public Health Genetics (2006); Public Health Preparedness and Disaster Response (2003); Recruitment/Retention in Public Health Research and Service Programs (2006)

Social Work

- Master's Program offered through the Bradford Campus (2002)

University Center for Social and Urban Research

- Certificate in Gerontology, with the Institute on Aging (2003)

University Center for International Studies

- Certificate in African Studies (2007)

Other developments concerning educational programs

A final, noteworthy component of curricular reform at both the undergraduate and graduate levels relates to the way in which the University meets its commitment to workforce development, continuing education, and adult learners in Western Pennsylvania. In 2006, the College of General Studies (CGS) was realigned into the School of Arts and Sciences, integrating the education of nontraditional students more centrally into University operations and policy-making and providing these students with easier access to University-wide resources. The CGS administration was integrated within the School of Arts and Sciences, which will now serve three distinct groups: graduate students who are offered graduate and research programs; traditional undergraduate students who are offered academic programs in the arts and sciences; and nontraditional students who are offered specialized academic programs. The mission and name of the College of General Studies remain unchanged and CGS continues to offer specialized services to nontraditional students, especially in the areas of advising and retention, and continues to develop and offer degree and certificate programs aimed at the specific workforce needs of the region.

Over the past five years, the University has also developed several new degree and certificate programs designed to help meet the workforce needs of the residents of Western Pennsylvania (see Figures 4 and 5). The Bradford Campus provides a particularly good example of how the University is taking advantage of its strengths, system-wide, to address the educational needs of our local communities. Starting with the strategic planning effort initiated by the new President in 2003, the Campus has carefully examined the needs of the residents and industry to identify particular needs of Northwestern Pennsylvania. In partnership with schools on the Pittsburgh Campus, the University of Pittsburgh at Bradford has introduced a Master of Science degree program in Nursing and a Masters of Social Work degree. It has developed several new degree completion programs for students who began their study at the Titusville campus and has also developed new bachelor's degree programs in Accounting, Health and Physical Education (K-12), Hospitality Management; Interdisciplinary Arts; and Entrepreneurship.

The University is also working to make its programs more accessible to nontraditional students throughout Pennsylvania and beyond through new distance education initiatives. The School of Information Science introduced the University's first fully online degree program in 2001. The College of General Studies is systematically redesigning its University External Studies Program to offer a larger fraction of courses online. And, an ad hoc working group of the Council of Deans is currently developing technical guidelines for offering professional degrees online that will complement the academic guidelines developed by the University Council on Graduate Studies in October 2000.

In summary, the University remains a national leader in the education of graduate students and postdoctoral scholars. This accomplishment is due in large part to a broadening of the array of master's, professional, and doctoral degree programs and enhanced recruitment efforts and the management of financial aid resources.

RESEARCH

Over the past decade the University strove to maintain and build its reputation as a leading research institution by working from its position of strength in the disciplines, and reaching beyond traditional academic boundaries to create exciting new research collaborations to engage in activities that advance learning by extending the frontiers of knowledge and creative endeavor. The research strength of the faculty is reflected in the books and articles published by the faculty, the awards and honors recognizing their accomplishments, and the funding that their research attracts to the University. In 2006, the University ranked in the top 20 among research universities in the number of national awards and honors bestowed on its faculty, according to rankings compiled by The Center for Measuring University

Performance. These awards and honors include eight new members of the National Academies, seven new members of the American Association for the Advancement of Science, two new members of the Academy of Arts and Sciences, a National Medal of Science, an Andrew Mellon Foundation Distinguished Achievement Award in the Humanities, the Chauvenet Prize and the David P. Robbins Award in Mathematics, a Guggenheim Fellow, a membership in the Royal Society of Chemistry, and a membership in the World Academy of Art and Science. University faculty members have also been awarded a number of national book awards and prizes, including the 2003 Frederick Douglass Book Prize for the best nonfiction book on slavery, resistance, or abolition; the 2005 Rhetoric Society of America Book Award; and two Mina P. Shaughnessy Prizes from the Modern Language Association in 2005 and 2006.

Despite increasing competition for limited research funding, the University has continued to be successful in attracting funded research. Over the past six years, the University has moved from 20th to 12th place among the 100 colleges and universities, public and private, receiving the largest amounts of federal obligations for science and engineering research and development, as reported by the National Science Foundation. In 2003, out of more than 3,000 institutions nationwide, the University ranked seventh among educational institutions and affiliates receiving National Institutes of Health funding.

While the University has long been noted for the excellence of its discipline-based research, one of the institution's strengths has been the development of a cultural environment in which teams of eminent researchers are encouraged to work together on major problems and to integrate and synthesize their work. The recent initiative in nanotechnology is an important example of how the University builds strengths in research at the intersection of multiple disciplines. In 2004, the University made a commitment to being a leader in nanotechnology by announcing its intentions to create an institute for nanoscience, which would bring coherence to its research efforts, and to build on the strengths of 40 existing multidisciplinary faculty from engineering, chemistry, and physics by hiring nine additional scientists. A year-long marketing effort attracted the attention of scientists and universities around the country, economic development and community leaders, as well as the media. By 2005, Pitt was ranked second in the nation in micro- and nanotechnology by *Small Times*, the trade publication in the field. That same year, a donor gave \$5 million for the construction of a nano fabrication and characterization facility, offering some of the most sophisticated equipment in the field, which was built and opened by the end of 2006. Also during this time period, three start-up companies and one major local corporation licensed nanotechnology from the University.

Over the past 10 years, a similar initiative in Bioengineering has resulted in a program with 54 affiliated faculty members, 150 graduate students and 140 undergraduate students, \$32.3 million in funded research in FY 2006, and three NIH pre-doctoral training grants. In 2004, the University publication *Excellence in Research* (<http://www.pitt.edu/~excelres/index.html>) highlighted several additional multidisciplinary research areas in which the University is a current or emerging leader. These include International Studies, National Preparedness, Translational Medicine, Culture and Thought, Aging, Neuroscience, Drug Discovery, Commercial Innovation, Computational Science, and Learning Technology. Over the past year, research groups have begun to emerge in Sustainability, Computational Biology, and Global Health.

Over the past five years, the University also has focused resources on making the research conducted at the institution more accessible to practitioners and to industry. The doctoral programs in clinical medicine and in Nursing are now rated 15th and 7th by *U.S. News and World Report*. Ten years ago the clinical medicine program was not among the top 50 ranked programs, and Nursing was ranked 21st. The University was among the first to introduce doctoral-level training for clinicians in the health sciences. In 1996, the School of Pharmacy introduced the Pharm.D. degree, which integrated science and practice and prepared students for careers in pharmacy practice, research, and education. Since then, the School of Health and Rehabilitation Sciences introduced professional doctorate degrees in Audiology, Physical

Therapy, and Speech Language Pathology. Most recently, the School of Nursing introduced the Doctor of Nursing Practice degree designed to train clinical practitioners who are able to function at the most advanced levels of clinical practice and are able to keep pace with the rapidly changing demands of the profession. The University is also a leader in Bench-to-Bedside research, particularly in the areas of drug development, minimally invasive surgery procedures, psychiatry, imaging technology, assistive technologies, medical robotics, and biomedical informatics.

The University has also made its research more accessible through increased transfer of technologies developed by the institution's researchers to industry partners that can bring the technology to market. The Office of Technology Management, established in 1996, plays a lead role in these technology transfer activities. In FY 2005, the University finalized 141 invention disclosures, as compared to 74 in FY 2003. It executed 58 licenses and agreements in FY 2005, a 32% increase over FY 2003. In its 2004 survey of licensing and commercialization activities, the Association of University Technology Managers ranked the University sixth in the nation in the number of start-up companies created that year. This is especially impressive since many of the schools in the survey have had technology transfer in place for 20 years. From FY 2003 through FY 2005, the University has averaged more than 118 new invention disclosures. In that same time frame, the University has seen an average of 27 U.S. patents issued, more than 51 licenses and agreements executed, and eight companies formed each year.

The research programs of the University are supported by one of the country's top research libraries, new and remodeled research facilities, state-of-the-art information technology infrastructure, and strong administrative support, all of which are discussed in Chapter Six. The University's investments in the infrastructure necessary to support a world class research institution, its focus on building strong, interdisciplinary research groups, and its efforts to strengthen the links between university research and industry have, and will continue to allow the University to maintain and build its strong research programs, despite increased pressure on federal research funding. The University Library System (ULS) has risen in recent years from 30th among all member libraries of the highly-competitive Association of Research Libraries rankings to 21st. The ULS now ranks 6th among North American libraries with regard to expenditures for electronic materials.

In summary, the University has maintained and continued to enhance its international reputation for research excellence. This accomplishment has been made possible highlighting key areas of multidisciplinary research, building upon established discipline-based strengths, and by assembling a world-class research library, facilities, information technology infrastructure, and administration to support research activities.

FACULTY

In Fall 2005, the full-time faculty at the University stood at 3,869, 23% higher than the faculty size in 1995. An increase in the number of non-tenure stream, clinical faculty in the School of Medicine accounts for 56% of the overall increase. Over the past decade there has also been a change in the tenure and tenure stream faculty. In Fall 2005, there were 1,731 tenure and tenure stream members of the faculty, only about 3% more than in Fall 1995. However, this apparent stability masks a 10% decline in the size of the tenure and tenure stream faculty between 1995 and 2000 resulting from an early retirement initiative and the subsequent rebuilding of the faculty – 31% of the current tenure and tenure stream faculty have been at the University six years or less. Of the total full-time faculty, 38% have been at the University for six years or less.

The current faculty is not only larger, but more ethnically diverse, with a higher representation of women. Between 1995 and 2005, minorities as a percent of the full-time faculty increased from 13.4% to 19.0%.

The number of underrepresented minorities also increased, though the overall percent of underrepresented minorities declined slightly from 5.2% in 1995 to 4.6% in 2000 to 4.8% in 2005. Over the same decade the number of women on the full-time faculty increased from 942 to 1,422, with women now representing 37% of the full-time faculty compared to less than 30% in 1995. This increase in the representation of women can be compared to that at peer institutions using data on full-time, instructional, non-clinical faculty published by the American Association of University Professors (AAUP). Using the AAUP data, the University has one of the highest representations of women on its faculty of any of the AAU public institutions. The University also had one of the largest percentage point increases in the number of women represented on the faculty among AAU public institutions, and though the percent of the tenured faculty who are women is slightly below the median, the percent of all faculty who are women is second highest among this group of peers.

The diversity of the University community also has been increased through the hiring of several women and minorities in key faculty administration positions. Over the past six years, eight of the 13 new appointments of deans and campus presidents have been women and/or minorities. These include the Dean of the School of Social Work and the Presidents of the University of Pittsburgh at Bradford and Johnstown, who are African American men; the Deans of Law, Pharmacy, and Nursing, and the newly appointed president of the University of Pittsburgh at Greensburg, who are white women; and the Vice Provost and Dean of Students, who is an African American woman.

Looking to the future, the University is committed to maintaining the current faculty-student ratio and expects a slight increase in faculty size over the next few years as currently vacant positions are filled. In addition to increasing the size of the faculty, the University also anticipates replacing a large fraction of the faculty following retirements in coming years. Currently half the tenure and tenure stream faculty members are over the age of 50, and 22% are over 60.

The University is well positioned to take advantage of this opportunity to continue to enhance faculty excellence and diversity, while building faculty strength in areas of research and instructional need. There is a strong, institutional commitment to faculty excellence and diversity; salaries and start-up funds are competitive; faculty members are supported by mentoring and professional development programs; and the University continues to invest in facilities and other resources that support the work of the faculty, including the library, instructional and information technology.

Starting in FY 2000, the University has dedicated substantial funds to making faculty salaries at all campuses competitive with those offered by its peers. The University benchmarks faculty salaries on the Pittsburgh Campus against other public AAU institutions, and in recent years salaries have been at the median for this peer group. The University continues to work to identify peer institutions to use for benchmarking salaries at the regional campuses.

Every school and campus has a formal process for faculty review in place. Workshops designed to help faculty members successfully navigate the path toward tenure and toward promotion to full professor are offered by individual schools and campuses, as well as university-wide. In FY 2007, the Pitt Partners Program, a mentoring effort designed to help new faculty members navigate the system and make connections across the University was piloted. A website was developed to provide easy access to University resources (http://www.pitt.edu/~provost/faculty_resources.html). In FY 2006, the Johnstown Campus introduced a new faculty mentoring program. In 2004, the University began surveying former faculty members to better understand reasons why they leave. The surveys are conducted every three years and have been useful in helping to identify ways to further improve the recruitment and retention of faculty.

Since the self-study was completed, the University developed a number of programs to support teaching excellence. For example, in 2006-2007 the University of Pittsburgh at Johnstown established a Faculty Resource Center to aid faculty in learning best practices in teaching and research. In 2002, the University Council on Graduate Study produced a guide entitled Elements of Good Academic Advising to help faculty members understand their role and responsibilities as graduate mentors, and in 2006 a new award was introduced to recognize excellence in mentoring of doctoral students. The Advisory Council on Instructional Excellence was established in 1998 to advise the Provost on the means necessary to encourage instructional development and teaching excellence at the University. The Council has initiated a number of new faculty development programs and activities including New Faculty Forums, which provide opportunities for new faculty to meet and exchange information and ideas with other new faculty in interdisciplinary small groups.

In summary, key to the growth of excellent undergraduate and graduate education and research is a faculty that is larger and more ethnically diverse, provided with an array of support programs and skills development opportunities, and compensated at levels competitive with peer institutions.

SUMMARY OF MAJOR CHALLENGES AND OPPORTUNITIES

Over the past decade the University has stepped up to the challenges set forth by the Board of Trustees, and as a result, the institution has made demonstrable progress in every dimension that defines a great university. The University's undergraduate programs are recognized as being among the very best offered at a public institution. It is a leading educator of graduate and post-doctoral students who will be the next generation of scholars and teachers. Its faculty is recognized for its engagement in research, artistic, and scholarly activities that advance learning through the extension of the frontiers of knowledge and creative endeavors, and the University is increasingly working with industry and government partners to transfer this knowledge.

The challenge for the University in the coming decade is to maintain the momentum developed in recent years, a task that will be made difficult by changes in external conditions including state funding, the numbers and demographics of high school graduates, and federal funding for academic research. However, as the University has moved forward over the past decade, it has developed a solid foundation that will serve as a foundation for future growth.

CHAPTER FOUR: ENROLLMENT AND FINANCE TRENDS AND PROJECTIONS

Appendix A: 2005-06 and 2004-05 Annual Reports: Financial Review and Consolidated Financial Statements

Appendix B: August 17, 2006 and August 19, 2005 Management Letters

Appendix C: IPEDS Finance Submissions for FY 2005, FY 2004, and FY 2003

INSTITUTIONAL RESOURCES

Building on the substantial successes of recent years, the University's total FY 2007 budget of \$1.54 billion provided additional funding for academic initiatives, research development, technology and infrastructure upgrades, and student life enhancements. This budget also provided for the most moderate tuition increases in several years.

Figure 6 displays current budgeted and projected operating budgets at the University for the duration of the planning horizon. These projections include only a modest 2% increase in the Commonwealth appropriation each year and planned increases in student tuition and fees of just over 5% on average.

Figure 6: Current Budget and Projected Educational and General Operating Budgets (\$000)

| | <i>FY 2007 Budget</i> | <i>FY 2008 Projected</i> | <i>FY 2009 Projected</i> | <i>FY 2010 Projected</i> | <i>FY 2010 Projected</i> |
|--|---------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| REVENUES | \$ 697,904 | \$ 732,697 | \$ 761,972 | \$ 792,579 | \$ 824,581 |
| Student Tuition & Fees | 436,389 | 462,208 | 485,319 | 509,585 | 535,064 |
| Commonwealth Appropriation | 165,593 | 168,905 | 172,283 | 175,729 | 179,243 |
| Grants & Contracts | 41,384 | 43,039 | 44,761 | 46,551 | 48,413 |
| Investment Income | 22,197 | 25,178 | 25,178 | 25,178 | 25,178 |
| Sales & Services/Other | 32,341 | 33,367 | 34,431 | 35,535 | 36,682 |
| EXPENSES | \$ 646,611 | \$ 673,395 | \$ 701,539 | \$ 728,801 | \$ 757,241 |
| Salaries & Wages | 315,486 | 324,951 | 334,699 | 344,740 | 355,082 |
| Fringe Benefits | 91,750 | 98,510 | 105,001 | 109,737 | 114,734 |
| Financial Aid | 93,743 | 98,430 | 103,352 | 108,519 | 113,945 |
| Student Life/Program Enhancements | 3,469 | 4,005 | 4,535 | 5,066 | 5,598 |
| Other | 142,163 | 147,499 | 153,952 | 160,739 | 167,882 |
| TRANSFERS (Debt Service, Library, Equipment) | \$ 51,293 | \$ 58,410 | \$ 59,775 | \$ 61,165 | \$ 62,582 |

The University's recent record of institutional progress is all the more satisfying because it has been built in a time of real fiscal challenge. For the past 40 years, state support has played an important role in fueling the University's advancement. Over much of that period, however, Pennsylvania lagged behind competitor states in supporting its public research universities, and the early years of this decade saw appropriation cuts and freezes. In January 2006, the *Chronicle of Higher Education* reported that, during the last fiscal year, state spending on higher education rebounded dramatically in most parts of the country. Unfortunately, Pennsylvania did not keep pace, placing 39th among the 50 states. The increase in the state appropriation for the current fiscal year again lagged measurably behind last year's national

increase of 6% reducing the purchasing power of the appropriation several million dollars lower than it was just a few years ago.

The University's "Discover a World of Possibilities" capital campaign – already the largest and most successful fundraising campaign in the history of Southwestern Pennsylvania – has exceeded a record-breaking \$1 billion in gifts and pledges and has done so eight months ahead of schedule. This campaign has generated broad-based support for the University, with gifts from more than 121,000 donors, including 67,000 alumni. The generous outpouring of support from graduates back to their alma mater has been one of the very heartening features of this campaign.

Demonstrating the depth of the financial resources available, the University enjoys a very strong credit rating of Aa2 from Moody's and AA from Standard and Poors. There are only seven public universities in the country with the highest credit ratings available of Aaa/Aa1 and only 15 public universities with Aa2 ratings placing the University in very select company.

ENROLLMENT TRENDS

Figure 7 displays recent fall full-time equivalent enrollments at the University. Stable enrollment is projected for the planning horizon.

Figure 7: Fall Full-Time Equivalent Enrollment

| <i>Fall Term</i> | <i>Undergraduate</i> | <i>Graduate & First Professional</i> | <i>UNIVERSITY TOTAL</i> |
|------------------|----------------------|--|-----------------------------|
| 2002 | 22,625.4 | 7,476.4 | 30,101.8 |
| 2003 | 22,424.6 | 7,605.4 | 30,030.0 |
| 2004 | 22,406.4 | 7,729.0 | 30,135.4 |
| 2005 | 22,191.2 | 7,819.6 | 30,010.8 |
| 2006 | 22,434.8 | 7,866.2 | 30,301.0 |

BENCHMARKING

The University's commitment to assessing performance extends beyond the academic realm into the daily operations of a modern and complex institution of higher education. Figure 8 details some of the principle benchmarks used by University financial administrators to assess management performance.

Figure 8: Office of Budget and Controller Benchmarks

Financial Reporting

- Number of Days to Closing
 - The University vs. Peer Universities
 - The University vs. Dow Jones Industrials

Processing Transactions

- Average Accounts Payable Cost/Transaction
- Invoice Exceptions
- Electronic Purchase Order Cost/Transaction
- Payroll Costs/Payee
- Paycheck Payment Error Rate

Student Financial Services

- Cost of Service Delivery/Student

Risk Management and Workers' Compensation

- Workers' Compensation Total Cost of Risk/\$100 of Payroll
- Auto Liability Premium/Vehicle
- Total Casualty and Property Loss Costs/\$1,000 of Revenue
- Owner Controlled Insurance Program for new building - BST III
 - Predicted Losses
 - Recordable Injury Rate
 - Lost Work Day Rate

Financial Systems

- Network Availability
- Tier I Support (First Call Resolution rate)
- TCO for Desktop Environment/PC

CHAPTER FIVE: ASSESSMENT PROCESSES AND PLANS

The University of Pittsburgh has a rich history of assessing the effectiveness of its institutional processes and programs, particularly those related to the educational mission. The University approaches assessment from the point of view that assessment is a comprehensive effort that includes a wide range of activities at different levels. At the University level, assessment tools include student attitude and satisfaction surveys, broad measures of student achievement, ongoing academic program evaluations, and review and approval of new academic program initiatives. The University makes extensive use of external consultants and review teams to analyze processes and structures and to provide suggestions for improvements. At the unit level, schools and campuses are responsible for assessing student achievement, evaluating student satisfaction with unit-level services, and reviewing and modifying curricula to keep pace with student needs and the demands of each discipline. In addition, many of the units within the University maintain regular compliance with dozens of discipline-specific accrediting bodies. A critical assumption on the part of the University is that units, and in the area of educational outcomes the faculty specifically, know best how to assess the quality of their programs, so long as the units are held accountable for their overall performance.

The following sections first describe the structure of assessment at the University and the Assessment Plan first presented as part of the 2001 self-study. This is followed by a discussion of three major changes related to assessment at the University that have occurred over the past five years: the continued development of a culture of assessment, the increased use of external data to benchmark progress, and the development of a process to document the assessment of student learning outcomes. The final section provides three specific examples that illustrate how the University uses assessment as part of its planning and budgeting process aimed at improving educational programs.

ASSESSMENT AT THE UNIVERSITY

The coordinator of University-wide assessment is the Vice Provost for Graduate Studies and interim Vice Provost for Undergraduate Studies. In this capacity, the Vice Provost works with: the Enrollment Management Committee to develop and conduct appropriate University-wide assessment processes; Institutional Research and other units throughout the University to develop appropriate assessment data; and the deans and campus presidents to identify appropriate benchmarks and provide oversight for the process that documents the assessment of student learning through the general education curricula and in each major in each school and campus. On the regional campuses, the academic deans direct outcomes assessment activities. The assessment of the Planning and Budgeting System is a shared responsibility of the Provost, as chair of the University Planning and Budgeting Committee, and the University Senate's Budget Policy Committee.

University Assessment Plan

As part of the self-study effort that accompanied the University's most recent re-accreditation, the University developed an Assessment Plan that documents the processes the institution uses to evaluate its effectiveness in achieving its mission and goals, its assurance that students and graduates achieve the appropriate learning and other outcomes, and its efficiency in using available resources. An updated version of this plan can be found in Appendix D. This plan has its foundation in the University's mission, goals, and objectives. The objectives articulated in the Plan were developed with the participation of faculty and administrators, and the plan uses both qualitative and quantitative means of assessment.

This Plan is not a comprehensive list of all the assessment activities that have occurred or are continuing at the University, but it does chronicle the major institution-level assessment activities that have occurred and will continue in the near future. It also organizes the University's thinking about assessment into major objectives consistent with institutional goals; presents areas where critical success factors can be identified and subsequently used to gauge the success of the University's efforts; and determines how the results of assessment can most effectively be both analyzed and utilized to effect change.

The objectives of the University Assessment Plan focus on student life, learning, and teaching, and include the following goals:

- To establish priorities and allocate limited resources through processes that facilitate clear accountability for management decisions;
- To promote a quality of life for students that nurtures their social and intellectual growth;
- To recruit, retain, and graduate a high quality student body; and
- To maintain a faculty composed of effective educators and leaders in their disciplines.

Under each objective, the plan includes strategies and actions, the measures being used to assess them, the methods of assessment, a timeframe for achievement, and the person(s) responsible for the specific strategy, measure, or assessment method. Examples of assessment methods include surveys of students and alumni, reviews of planning and budgeting documents, examinations of a wide range of data collected by various units, and evaluations of proposals for new programs. Some of these assessments have utilized consultants and external review and accreditation teams. Much of the information used to conduct assessments is collected centrally, such as enrollment data, retention and graduation rates, or SAT scores.

Figure 9 summarizes routine data collection activities used in the assessment of institutional effectiveness and indicates the associated accreditation standards. This list can be considered an inventory of the tools used in an ongoing fashion to assess the effectiveness throughout the University. The table indicates whether the data are based on surveys, whether data on benchmark institutions are included, and the accreditation standards assessed using these data.

Developing a culture of assessment

Over the past five years there has been a notable increase University wide in the use of assessment to help measure progress toward stated goals and in the degree to which faculty, staff, and administrators recognize the importance of assessment in helping the University attain these goals. From 2003 to 2005, the Provost spoke with groups of faculty, administrators, and staff, both within and outside the traditional academic areas, with the aim of focusing the University's attention on the strategic academic goals that he, in consultation with the faculty and administration, had set for the University. This presentation not only set out goals, it laid the framework through which progress toward these goals would be assessed. Over the past two years, the Provost has again reached out to the University community through a series of presentations in which he documents the institution's progress toward achieving its goals. At the same time, the Council of Deans (COD) has been involved in ongoing discussions of how to assess the progress individual schools and campuses are making toward their goals. These discussions have resulted in changes to the planning instructions which now ask each school and campus to report annually on their efforts to benchmark their success relative to their peers and aspirational peers. The culture of assessment is now taking hold. Panels discussed learning outcomes assessment at the COD meetings in Spring 2004, Fall 2005, Fall 2006, and Spring 2007. A similar panel/workshop was held as part of the annual University-wide chairs' retreat in Spring 2007. The learning outcomes assessment initiative has also been

discussed with the University Council on Graduate Studies, the Provost's Advisory Committee for Undergraduate Programs, and the Senate Educational Policies Committee.

Figure 9: Assessment Data Collection Activities

| | Benchmark Institutions | Survey Data | Related Middle States Standard |
|---|-------------------------------|--------------------|---------------------------------------|
| Fiscal year budget planning information | | | 1, 2, 3 |
| Retention, graduation, and persistence reports | | | 8, 9, 14 |
| Enrollment and student credit hour reports | x | | 8 |
| Credit hours generated and consumed | | | 8, 14 |
| Faculty salary reports | x | | 2, 3, 10 |
| Salary equity analyses | x | | 2, 3, 10 |
| Staff salary report | x | | 2, 3 |
| Affirmative action analysis | | | 3, 8, 10 |
| University Fact Book | | | all |
| Appropriations hearings support | | | 2, 4, 5 |
| NCAA compliance analysis | x | | 6, 8, 9 |
| Internal audit/budget control | x | | 4, 5, 6 |
| Academic Scorecard | x | | 2, 3, 7 |
| University Benchmarks Report | x | | all |
| Faculty demographics reports | x | | 8 |
| Graduation survey | | x | 7, 8, 9, 14 |
| Alumni survey | | x | 7, 8, 9, 14 |
| Student satisfaction survey | | x | 7, 8, 9, 14 |
| Non-returning student survey | | x | 7, 8, 9, 14 |
| National Survey of Student Engagement | x | x | 7, 14 |
| CIRP Freshman Survey | x | x | 7, 14 |
| Survey of non-returning faculty | | x | 8 |
| Provost's Advisory Committee on Women's Concerns analyses | | | 3, 5, 6, 8, 10 |
| Space utilization studies | | | 3 |
| Classroom utilization report | | | 3, 9 |
| Admissions and financial aid yield rate analysis | | | 8 |
| Admit not attend survey | | x | 8 |

Use of benchmark data in assessment of institutional effectiveness

One of the major developments in the University's assessment efforts over the past five years has been the increased benchmarking of successes relative to peer and aspiration institutions. In 2001, at the request of the Board of Trustees, the University embarked on an exploration of institutional benchmarks, comparing the University to a set of comparison peers and a set of aspirational peers. For the past five years, a comprehensive database of information on students, faculty, finances, academic outputs, and productivity has been maintained at both the institutional level and for several key disciplines. In addition, academic units have been directed to use the resources available to them to create their own benchmarking processes. The regular review of this information has provided senior administrators with important feedback on the progress of the institution in achieving its stated goals, as well as identifying areas of challenge and opportunity for future investigation and emphasis.

Figure 9 documents the variety of data collection efforts that involve the use of external benchmarks. One of the institution's most extensive benchmarking efforts is the University Benchmark Report. Figure 10 contains the list of indicators contained in the University Benchmarks Report, and Appendix E contains the University Benchmark Report for 2006. This report provides a detailed set of indicators of progress toward stated goals, and includes data for both the University and for peer institutions.

Through its benchmarking efforts, the University has also strengthened the link between goals and the use of specific outcomes to measure progress toward those goals. The Academic Scorecard (see Figure 11), for example, is used to assess the University's progress related to Standard 1: Mission and Goal. The Scorecard includes multiple strategic indicators for each of the stated goals, and reports on the University along with a set of public institutions identified as peers and aspirational peers. The Scorecard has eight strategic indicators of progress toward the first goal: *to become recognized as a top 25 research University*. These strategic indicators include faculty honors and awards, along with ranking of University programs by The Center, *U.S. News and World Report*, and the National Research Council (NRC). There are 10 strategic indicators of progress toward the second goal: *Offer superb undergraduate experience of nationally recognized stature*. Again, the strategic indicators include a mix of objective measures such as SAT's, retention and graduation rates, along with subjective measures of student satisfaction taken from the National Survey of Student Engagement (NSSE).

Individual schools and campuses also make use of benchmark data to assess their progress. The annual planning instructions sent to each dean and campus president ask each to include a section that benchmarks key measures linked to the school/campuses goals against those of their counterparts at peer and aspirational peer institutions. Most of the University's schools and campuses find benchmarking to be a useful method of assessing progress toward their goals.

Documenting the assessment of student learning outcomes

The third area in which there has been notable development is in assessing student learning outcomes. As background, the University has a long-standing tradition of ongoing and periodic evaluation of academic programs. Formal evaluations of degree programs occur every five to ten years following the *Guidelines for Conducting Evaluations of Academic Programs* (<http://www.pitt.edu/~provost/guidelines.pdf>). In addition, many of the University's professional programs undergo comprehensive reviews as part of their accreditation process. A list of academic programs evaluated through these processes over the past five years can be found in Appendix F. Traditionally these program evaluations have focused on the structure of the curriculum, the quality of the faculty, and other resources available to support student learning. More recently, program evaluations and re-accreditation reviews at the University have increasingly included the assessment of student learning as a critical component of the program evaluation.

As a result of these University-wide discussions and the real progress that individual schools and campuses had made in assessing student learning, last year the University found itself in a good position to put down on paper a University-wide plan for assessing the success of academic programs in meeting the student learning goals faculty have set for them. In September 2006, the Provost charged an ad hoc working group of the Council of Deans to develop guidelines for documenting the assessment of student learning that occurs in the University's academic programs.

Figure 10: University Benchmarks

Student Characteristics

- Fall First-Time, Full-Time Freshman Test Scores, SAT/ACT 25th and 75th Percentiles
- Freshmen in the Top 10% and Top 25% of Their High School Graduating Class
- Total First-Time, First-Year Applications
- Percent of First-Time, First-Year Applicants Accepted
- Percent and Number of First-Time, First-Year Accepted Applicants Who Matriculated
- Percent of Undergraduate Student Body by Race/Ethnicity, Sex, and Residency
- Freshman to Sophomore Retention Rate
- Four-Year and Six-Year Graduation Rate
- Graduate and First Professional Enrollment as a Percent of Total Headcount Enrollment

Research and Intellectual Activity

- Total Faculty Who Are National Academy Members
- Total Volumes Held in the Library
- Rank in the Association of Research Libraries Index
- Total Library Expenditures per Teaching Faculty and per Full-Time Student
- Total R&D Expenditures and Federally-Financed R&D Expenditures
- Distribution of Total R&D Expenditures by Source and by Field
- National Science Foundation Ranking Among Universities
- Invention Disclosures Received
- Total U.S. Patent Applications Filed and Issued
- Licenses and Options Executed
- Gross License Income Received per License/Option Yielding License Income

Finance

- Total Voluntary Support
- Alumni Donors as a Percent of Alumni of Record
- Average Amount Given per Alumni Donor
- National Ranking in Annual Giving
- Distribution of Voluntary Support by Source
- University Endowment as of June 30
- Average Salaries of Professors, Associate Professors, and Assistant Professors

Instruction

- Percent of Top Three Faculty Ranks with Tenure
- Percent of Faculty Who Are Full-Time
- Percent of Full-Time Faculty with Highest Terminal Degree
- Student-Faculty Ratio
- Total Degrees Granted
- Bachelor's Degrees as a Percent of Total Degrees Granted
- Percent of Bachelor's Degrees Awarded in the Arts and Sciences
- Total Doctoral Degrees Granted
- Percent of Undergraduate Class Sections Under 20 Students
- Percent of Undergraduate Class Sections of 50 Sections or More

Figure 11: Academic Scorecard 2006

| | | Pitt | Peers | Aspire Peers | Pitt Change Last Year |
|---|---|--------|--------|--------------|-----------------------|
| Become recognized as a top 25 research University | | | | | |
| 1. | Faculty Academic Honors and Awards | 20 | 18 | 32 | + 7 |
| 2. | TheCenter Ranking Among All Research Universities | 27 | 47 | 18 | - 2 |
| 3. | TheCenter Ranking Among Public Universities | 12 | 25 | 7 | NC |
| 4. | USNews Academic Reputation Peer Assessment Score | 3.5 | 3.5 | 4.2 | + 0.1 |
| 5. | USNews A&S PhD programs among top 25 | 1 | 4 | 10 | + 1 |
| 6. | USNews Professional Colleges among top 25 | 4 | 2 | 7 | NC |
| 7. | USNews Professional College PhD programs among top 25 | 6 | 5 | 8 | NC |
| 8. | NRC PhD Programs Among Top 25% (1992) | 4 | 6 | 20 | |
| Offer superb undergraduate experience of nationally recognized stature | | | | | |
| 1. | % Freshmen in Top 10% of High School Class | 43% | 38% | 65% | - 3% |
| 2. | Average Freshman SAT | 1230 | 1203 | 1274 | - 5 |
| 3. | % Seniors Satisfied with Quality of Academic Experience | 86% | 85% | | + 1% |
| 4. | % Seniors Satisfied with Class Size | 59% | 55% | | - 7% |
| 5. | % Seniors Satisfied with Quality of Instruction | 70% | 68% | | - 5% |
| 6. | % Seniors Satisfied with Relationships with Faculty | 94% | 92% | | + 7% |
| 7. | % Seniors Satisfied with Academic Advising | 69% | 63% | | + 10% |
| 8. | Freshman Retention Rate | 90% | 90% | 94% | + 1% |
| 9. | 4-Year Graduation Rate | 52% | 49% | 59% | + 6% |
| 10. | 6-Year Graduation Rate | 70% | 73% | 80% | + 3% |
| Nurture world-class research/scholarly and creative output environment | | | | | |
| 1. | Total Research Dollars (\$ millions) | \$ 462 | \$ 352 | \$ 533 | + \$ 52 |
| 2. | Federal Research Dollars (\$ millions) | \$ 394 | \$ 194 | \$ 339 | + \$ 48 |
| 3. | Doctoral Degrees Granted | 372 | 430 | 584 | - 10 |
| 4. | Postdoctoral Appointees | 688 | 269 | 514 | + 140 |
| 5. | Average GMAT for MBA Students | 624 | 624 | 664 | + 4 |
| 6. | Average LSAT for Law Students | 159 | 159 | 165 | - 1 |
| 7. | Average Combined GRE Score for Graduate Students | 1167 | | 1049 | - 7 |
| 8. | Faculty Salary Ranking Among AAU Publics - Professor | 13 | 11 | 12 | NC |
| 9. | Faculty Salary Ranking Among AAU Publics - Associate | 15 | 10 | 8 | - 3 |
| 10. | Faculty Salary Ranking Among AAU Publics - Assistant | 20 | 12 | 11 | - 7 |
| Create a diverse University community | | | | | |
| 1. | % Women Full-Time Faculty | 37% | 33% | 32% | + 2% |
| 2. | % Minority Full-Time Faculty | 13% | 17% | 15% | NC |
| 3. | % Minority Staff | 16% | 21% | 17% | NC |
| 4. | % Minority Freshmen | 17% | 26% | 25% | - 2% |
| 5. | African American Freshman Retention Rate | 87% | 86% | 90% | + 3% |
| 6. | African American 6-year Graduation Rate | 60% | 56% | 63% | + 12% |
| Become engaged with external constituencies | | | | | |
| 1. | Alumni Giving Rate | 15% | 12% | 15% | + 1% |
| 2. | Inventions Disclosed (3-year average) | 102 | 139 | 225 | + 19 |
| 3. | Patents Awarded (3-year average) | 28 | 31 | 49 | - 2 |
| 4. | License/Options Executed (3-year average) | 43 | 27 | 86 | + 11 |
| Expand global focus by increasing international study and research | | | | | |
| 1. | % Freshmen Who Plan to Study Abroad | 39% | | 35% | + 2% |
| 2. | % Undergraduate Students Who Study Abroad | 24% | 16% | 26% | + 4% |
| 3. | Title VI National Resource Area Studies Centers | 6 | 1 | 6 | NC |

Guidelines for documenting student learning outcomes

The Council of Deans' working group was guided by a strong belief that assessment will be effective in helping to shape the University's academic programs only if the effort is lead by the program faculty, as long as that faculty is held accountable. The group also believed that to be effective assessment must be an integral part of the planning efforts of the individual units, schools, and campuses. Finally, to be sustainable, the effort must be mindful of the resources both human and other involved.

Figure 12: Assessment Guidelines Established by the Council of Deans

Responsibility for Assessment

- Program faculty are responsible for the development and administration of the assessment processes of individual programs in accordance with the appropriate programmatic or departmental governance structure.
- Department chairs are responsible for coordinating the assessment process for departmentally-based programs.
- Deans, directors, and campus presidents are responsible for coordinating the assessment process for school- and campus-based programs.
- Schools and regional campuses are responsible for developing internal procedures for documenting program assessment.
- Deans, directors, and campus presidents are to report annually to the Provost on the school's and campus' assessment activities and relevant results as part of their planning process.

Timetable for Reporting Assessment Plans

March 2007 – Deans, directors, and campus presidents are to submit documentation of the assessment process in the form of an Assessment Matrix (with the first three columns completed) for each degree program as part of their annual planning document.

March 2008 – Deans and campus presidents are to submit documentation of their assessment processes for general education as part of the annual planning document.

Academic Year 2008 – Initial assessments of each degree program should be conducted and results reported.

Academic Year 2009 – Initial assessments of general education programs should be conducted and results reported.

The Guidelines developed and approved by the Council of Deans in November 2006 state that:

1. Every school and campus must ensure that there is a process in place to assess student learning outcomes for each degree or certificate granting program, and for the school- and campus-level general education curricula.
2. For each program and for the general education curriculum, schools and regional campuses should document the following components of the assessment process:
 - a. An articulation of the program mission and goals
 - b. Identification of 3-5 educational outcomes

- c. Identification of the methods of assessment including when and how the learning outcomes will be assessed, at least some direct evidence, and periodic validation external to the course and instructor, if a specific course is part of the assessment.
- d. Standards of comparison
- e. A process of faculty and administrative review that ensures results are used for program improvement.

The Guidelines also articulate who is responsible for assessment at every level and a timetable for reporting (see Figure 12). The timetable established by the Council of Deans asks schools and campuses to report on their process for assessing student learning outcomes in degree programs in March 2007 and general education curriculum in March 2008. Initial assessments of each degree program will be conducted and reported in academic year 2008, and the initial rounds of assessment of the general education programs are to take place the following year, academic year 2009. Thus, the process of the assessment of student learning outcomes should be fully operational and documented well before the University's next reaccreditation visit.

Resources to assist in the learning outcomes assessment initiative

A Web site (www.pitt.edu/~provost/assessment.html) has been developed to assist programs as they develop and document processes for assessing student learning. The Center for Instructional Development and Distance Education has developed workshops to assist individual programs design appropriate processes to assess student learning in their programs. Several steps have been taken to make appropriate administrative data more accessible to the individual units. These include the development of the Student Data Warehouse and the new PeopleSoft Data System, and development of standardized data reports developed through Computing Services and Systems Development, Institutional Research, the Enrollment Management Committee, and individual schools. The University has also begun administering some surveys online so that they can be tailored to the needs of specific programs, and is exploring the usefulness of other University-wide assessment tools that could include University-wide, school-wide, and program-specific questions.

Current status of assessment of student learning outcomes

In the first round of reporting, schools and campuses submitted documentation of their assessment processes (in the form of a matrix) for each degree program as part of their annual planning documents in March 2007. A sample report for the Bachelor of Arts program in History on the Pittsburgh Campus is reproduced in Figure 13. All academic programs were required to fill out the first three columns of the matrix this year. In the first column, the program articulates three to five learning outcomes for their students that are specific to their discipline and consistent with the University's overall goals for student learning (Figure 3). In column two, programs include the appropriate method for assessing those outcomes including who will be assessed, when they will be assessed, and how often assessment will take place. When determining assessment methods, programs are required to include at least some form of direct evidence of student learning. Finally, in column three programs provide a standard of expectation of how well their students should do at achieving said goals. By March 2008, programs will have completed the final two columns of the assessment matrix for at least one of their student learning outcomes. This includes an interpretation of the results of the assessment and a plan of action on how the results will be used to improve program effectiveness. The full set of reports for all programs is included in Appendix G. Individual schools, campuses, and programs have received, or will receive, feedback to help them refine their assessment processes. It is expected that these assessment processes will be further refined over the coming year as programs begin to conduct assessments and consider how these assessment might be used to improve their academic programs.

Figure 13: Sample Assessment Matrix

**ASSESSMENT
MATRIX**



| | | | |
|---|---|------------------|------------------|
| PROGRAM OR SCHOOL | B.A. Program, Department of History | | |
| Assessment Coordinator for Program or School | Name: xx | Email: xx | Phone: xx |
| Program or School Mission Statement | None at present | | |
| Program or School Goals | To educate undergraduates in the analysis and understanding of historical change, with emphasis on developing high-level skills in document analysis and written communication. | | |

| Learning Outcomes <i>What will students know and be able to do when they graduate?</i> | Assessment Methods <i>How will the outcome be measured? Who will be assessed, when, and how often?</i> | Standards of Comparison <i>How well should students be able to do on the assessment?</i> | Interpretation of Results <i>What do the data show?</i> | Use of Results/Action Plan <i>Who reviewed the finding? What changes were made after reviewing the results?</i> |
|--|---|---|---|---|
| 1. Students will have broad knowledge about the history of our country and other parts of the world. | The department will administer a standardized examination (either ETS Major Field Exam in History or an examination prepared by the department) to a randomly selected sample of (a) newly declared majors and (b) graduating majors. This evaluation to be carried out in spring 2009 and every four years thereafter. | Graduating History majors should do significantly better on the exam than newly declared majors. | | |
| 2. Students will read and interpret different kinds of documents related to the study of history. | The department will assess a random sample of final papers written during the fall term 2007 by students in the capstone seminar for majors (HIST 1000/1001). This assessment to be carried out in spring 2008 and every four years thereafter | Students should be able to distinguish between primary and secondary sources and engage with professional historians' questions, debates, and arguments. They should be able not only to understand but to evaluate various sources of information. | | |
| 3. Students will demonstrate the ability to write analytic and argument-driven prose. | The department will assess a random sample of final papers written during the fall term 2007 by students in the capstone seminar for majors (HIST 1000/1001). This assessment to be carried out in spring 2008 and every four years thereafter. | Students should be able to collect information about the past, order and synthesize it, and present an analysis in standard English. Good written work will feature original understanding, comparison, and connection, lucidly communicated. | | |

Though individual schools and campuses are not required to document their process for assessing general education programs until next year, a firm foundation is already in place for assessing student learning in general education programs. The Greensburg Campus established a process for assessing student learning that includes the general education as part of their overall planning in 2002. All undergraduate programs in the School of Engineering also have ongoing assessments of learning outcomes related to the goals of their general education curriculum. The Pittsburgh, Bradford, Greensburg, and Johnstown Campuses regularly participate in the NSSE survey and use student responses as indirect assessments of specific learning outcomes. The report in Appendix H shows how the Pittsburgh Campus uses student responses to specific questions on the Cooperative Institutional Research Program (CIRP) and NSSE surveys to assess the specific learning outcomes established for the University's undergraduates. The document also reports the University's current assessment of student learning using these surveys as assessment tools. The University participates in the Standardized Assessment of Information Literacy Skills (SAILS) survey that assesses information literacy (this is discussed below), and this year the University participated in the Collegiate Learning Assessment (CLA), a test of critical thinking, analytic reasoning, and written communication. The CLA was administered to first-year, first-time freshmen in the fall and to non-transfer, graduating seniors in the spring. The results will be used to construct value added measures to assess gains in students' critical thinking, analytic reasoning, and written communication.

Examples of assessment activities in the planning process

Student Satisfaction and Retention Studies. In Spring 1997, the University Center for Social and Urban Research (UCSUR) began a longitudinal study of undergraduate student satisfaction and retention. The study followed three first-time, full-time freshmen cohorts through the junior year of their undergraduate careers. The three cohorts included in the initial study were those entering in Fall 1996, 1997, and 1998. The study involved a variety of data collection and monitoring activities, including the use of University administrative data; a survey of incoming freshmen administered as part of CIRP during summer orientation prior to beginning the freshman year; a series of satisfaction surveys conducted by UCSUR during the spring term of the freshman, sophomore, and junior years; and a continuing UCSUR survey of withdrawing students focusing on the reasons for withdrawal. A follow-up, cross-section study of freshmen, sophomores, and juniors was conducted in 2004, and in Spring 2006 a new cohort study was started and it is anticipated that this study will continue as an ongoing panel study of student satisfaction and retention.

For each cohort, approximately 1,400 freshmen are identified and, due to attrition and non-response, approximately 1,000 freshmen, 800 sophomores, and 600 juniors are interviewed as part of the spring term satisfaction surveys. Each year, the data from these surveys is analyzed for each individual class, and each cohort is compared to its successors. These annual reports update progress on key areas identified in the more comprehensive cohort studies which explore cross-sectional differences, individual change, and cohort effects, using the richer set of administrative and survey data. Analyses are conducted that compare satisfaction and retention based on race, gender, and residency status. The findings of these studies are reviewed and discussed regularly by decision makers. In some cases, these discussions have lead to detailed follow-up studies, and in many cases they have influenced the planning process.

One example of how this analysis has influenced the planning process is in the area of student housing. One of the key finding of the initial cohort analysis of satisfaction and retention was that student satisfaction and retention is significantly higher for students who live in residence halls than for those who live off campus. This finding persists even after controlling for the other factors such as involvement in social activities, finances, demographics, and academic performance. This result is also consistent with the findings of surveys conducted of students admitted to the University but who chose to enroll elsewhere. These surveys found that the students the University is trying to recruit are interested in multi-

year guarantees of on-campus housing. As a result, the institution set an informal goal of being able to offer a four-year housing guarantee to incoming freshmen.

Between 1999 and 2006, residency hall capacity was increased by 35% to 10,100 students (Pittsburgh – 6,704; Bradford – 654; Greensburg – 624; Johnstown – 1,829; Titusville – 311). The new facilities plan also includes approximately 800 new beds on the four largest campuses. These new residence halls include a variety of types of housing, and incorporate special interest housing such as the academic villages on the Greensburg campus. Despite these efforts, the University has not yet achieved the goal of a four-year housing guarantee. In fact, the institution has been so successful in making residence halls attractive to students, and in retaining students, that these expansions are no longer sufficient to house all the students who would like to live in the residence halls for four years.

Another example of how the Student Satisfaction and Retention Studies are used is in the area of planning course offerings. The early student satisfaction surveys revealed that students were frustrated by their inability to register for classes they needed, and that they felt this was delaying their graduation. Further analysis revealed that specific majors were bottle necks, as well as courses that fulfill specific general education requirements. As a result, a “seat management system” was developed to predict course demand and to staff those courses well in advance, rather than adding individual sections as the demand unrolled. As a result of this new system, the number of sections added over the summer fell from over 4000 in summer 2002 to only a handful of sections in 2006. The advanced planning also allowed departments to staff these courses with better qualified instructors. More recent student satisfaction surveys, as well as graduation rate analysis, confirm that the availability of classes is less of a frustration to students and less of a hindrance to timely graduation.

Assessment of the Writing in the Disciplines. The NSSE survey asks students questions about their involvement in university life both inside and outside of the classroom. The University began participating in NSSE in 2000 and has had the survey administered to 500 freshmen and 500 seniors every other year since then. In future years the survey will be administered every third year so as to sample members of the same cohort during their freshman and senior years. As noted earlier, the University uses student responses to questions about the extent to which their experiences at the University have contributed to various aspects of their intellectual development as indirect assessments of various aspects of the general education curriculum.

In the initial administration of NSSE in 2000, University students, both freshmen and seniors, were more likely than students at peer institutions to report that their experience at the University contributed to their ability to write clearly. This perception is consistent with other internal and external indicators that the University has one of the pre-eminent composition programs in the country. Student perceptions of the impact of their college experience on their writing ability have remained strong in subsequent administrations of the NSSE. However, in recent years the NSSE survey has shown that students at peer institutions are increasingly reporting that their institutions are having a significant impact on their writing, suggesting that the advantage the University once held may be narrowing. This has been particularly true for seniors.

At the request of the Enrollment Management Committee, from 2004 to 2005 a comprehensive assessment of undergraduate writing in the Arts and Sciences at the University was directed by two members of the composition faculty, with an advisory board of seven other faculty members from across the disciplines. This careful and thoughtful assessment included in-depth interviews with twenty-seven faculty members from across the academic departments, on-line surveys with 1,000 juniors and 1,000 seniors invited to participate, ten undergraduate focus groups, three teaching assistant focus groups, and a paper survey of existing writing courses and the writing requirement. The report provides background and context for thinking about writing across the curriculum at the University. It also provides insights

into what students think about writing and about the University's writing courses. The faculty interviews also provide compelling examples of best practices in teaching writing.

The findings of the study were encouraging:

- Most faculty members agreed that the quality of student writing, and the quality of students' preparation for a course with writing, have improved over the past decade, and that students are generally prepared to do the work of advanced courses.
- Students' expectations with respect to writing and writing courses are remarkably consistent with faculty expectations. Both students and faculty value writing that is clear, concise, and organized. Students value writing assignments that make them think.
- 90% of students who responded to the survey said that writing was important, very important, or extremely important to their education at the University; 80% said that writing was important in their major area of study.

The study also identified improvements that could be made. As a result of the study and other discussions:

- Two new lecture positions have been added in support of writing in the disciplines, one in support of writing within Arts and Sciences disciplines, the second as part of a collaboration with the School of Engineering to incorporate writing into their integrated, first-year curriculum.
- Section sizes in the first composition have been reduced from 25 to less than 20 students, and students are now required to complete their first writing course by the end of their freshman year to better prepare them to take advantage of opportunities to improve their writing through courses taken throughout their course of study.
- A new peer tutoring program has been introduced.
- Resources have been made available to promote campus-wide discussion of writing and to support the development of new writing-intensive courses.

Standardized Assessment of Information Literacy Skills (SAILS). SAILS is a standardized test of information literacy based on the Association of College and Research Libraries' Information Literacy Competency Standards for Higher Education, which complement the standards articulated by the Middle States Commission on Higher Education. The University administered the SAILS exam in Spring 2005 to about 200 freshman engineering and psychology students as a pilot to assess information literacy of the University's students.

The results showed that the average University student performed at the same level as the average student from all other testing institutions. However, the results also indicated several areas where students struggled with such information literacy concepts as developing a research strategy, using appropriate information resources, identifying and finding scholarly literature, and plagiarism and ethical use of information. In response to these findings, the University Library System began working with the Freshman Engineering program to develop curricular components that could be used to strengthen these aspects of information literacy. This included librarians providing direct instruction in the freshman seminar, and the development of Web-based lessons that students must complete as part of the freshman seminar.

In Fall 2006, administration of SAILS was expanded and almost 1,000 first-year students in Engineering, Arts and Sciences, and General Studies were tested. The University Library System plans to continue to administer the test to freshman in order to establish baseline data concerning information literacy for freshmen as they enter the University. Building on the data collected, the University Library System is developing online tutorials with multiple modules (one for addressing each of the information literacy

competency standards), that provide in-depth instruction in each area, followed by a multiple question quiz to evaluate students' comprehension of the information provided. Modules are also being tailored to specific disciplines and programs. The tutorials are designed so that instructors have the option of offering these online tutorials as part of a course within the CourseWeb system, or via a link to the University Library System Web page. Instructors can also continue to request a library instruction session for their class in support of the information literacy effort, and the University Library System is incorporating the ACRL/Middle States standards across all library instruction sessions to ensure that all sessions offered by librarians will focus on further reinforcing the information literacy standards outlined in the online instructional modules. Finally, the SAILS test will be administered to students in their senior year to demonstrate the progress they have made with regard to their ability to gather and evaluate information.

In summary, the University is committed to a broad range of activities, including building on the Assessment Plan reported in the 2001 self-study, extensive compilation and application of institutional and unit-level benchmarking data and analyses, and documentation of student learning outcomes and evaluation of student satisfaction. Through these and other processes, the University continues to develop a culture of assessment on its campuses. Continued and sustained planning and programming will further enrich the educational experiences of students at the University of Pittsburgh in the years to come.

CHAPTER SIX: LINKED PLANNING AND BUDGETING PROCESSES

LEADERSHIP AND GOVERNANCE

Key to the recent successes of the University is the stability of its current administration. The consistent leadership of Chancellor Nordenberg, Provost Maher, and Senior Vice Chancellor Levine has provided a sound and level framework within which to manage daily operations and achieve long-term goals.

The Planning and Budgeting System (PBS), implemented in 1992, opened participation in management decision making to all constituencies and continues to guide planning and budgeting activities at the University. The quality of and access to information used to support decision making continues to improve and evolve to meet the planning and budgeting needs of the University. Whatever changes occur in senior administration, the Planning and Budgeting System provides continuity in guiding institutional decision making.

A component essential to the success of the Planning and Budgeting System and related management decision making in recent years has been high quality information. In the mid-1990's, the University recognized the need to upgrade its various administrative information systems to better support the demands of administrators and planning and budgeting committees. Since that time, the University has invested considerable time and resources to upgrading its financial, human resources, and institutional advancement computing systems. These new systems have contributed significantly to the University's financial success and to its effective application of personnel to academic goals.

In recent years, the new PeopleSoft student administrative system has been implemented, addressing the University's "core business" of recruitment, admission, billing, advising, communication, and graduation of students. Included in the new student information system were modules for recruitment and admissions, financial aid, billing and cashiering, academic records, housing, and degree audit. All units of the University have benefited from the significantly enhanced capabilities that this web-based system provides, and the quality and variety of services offered to students have been greatly enhanced. The new system, coupled with the enterprise portal and data warehouse already introduced, immeasurably increased the amount and quality of available information about programs and students available.

PLANNING, RESOURCE ALLOCATION, AND INSTITUTIONAL RENEWAL

In the 1990's, the University faced a fiscal crisis. Addressing these financial constraints required stern discipline driven by an overarching concern for developing academic excellence. The Planning and Budgeting System was developed in 1992, providing the framework within which to engage the University community in conversation about resources and their allocation. *Toward the 21st Century* provided the vision and goals to drive management decision making. And the academic administration implemented policies ensuring responsible and innovative leadership. For instance, plans were linked to budgets at every level of the institution. Enrollment and personnel targets were established in order to make each unit budget a truly strategic document. And, an aggressive process of reallocation was implemented, creating central reserves from which the University could address its strategic goals.

Building on this broad framework, in recent years the University has developed a series of tactical plans addressing major resource areas.

Facilities planning

In 1997, the University developed a comprehensive plan to guide facilities development on all five campuses for the next 10 years. The environment in which that plan was produced was challenging. The University was significantly over-committed in its building plans and faced enrollment and budget shortfalls. The planning exercise helped produce a highly successful decade of capital improvement, which in turn helped accelerate the improvements in the overall quality of the University's academic programs.

The 1997 plan was, of necessity conservative, even though it projected a minimum expenditure of nearly \$485 million from 1998 to 2006 to meet critical facilities needs. The reality proved much more exciting, largely as a result of the high level buy-in from numerous constituencies to the positive directions the University was headed. The discipline and focus displayed in the planning exercise and the University's willingness to make difficult decisions, convinced friends and supporters that clear goals and priorities had been established and that the University was intent on reaching them. As a result, a total of \$866 million was actually expended in modernizing existing facilities and building new ones to support rapidly developing programs and responding to new opportunities.

Because the University remained committed to its academic goals while retaining the flexibility to respond to opportunities, capital investments were made in important areas. Deferred maintenance was dramatically reduced; existing facilities were significantly renovated to support new programs; utility and network infrastructures were modernized; new facilities were constructed; and additional student housing and recreation facilities were added at all five campuses.

The 2006 context for facilities planning was markedly different. The University's external reputation has never been higher; levels of external support are larger than ever; the physical plant is in much better condition; and the University's financial condition, while still constrained, is not as dire as 10 years ago. Most important, competition will be increasingly intense and the effort needed to advance against that competition will be much greater. The new facilities plan (see Appendix I) covers the years from 2007 to 2018 and is broken into three phases, with combined expenditures totaling \$827 million.

The new facilities plan advances the following goals.

- Existing facilities will be adapted and modernized to support present and future programmatic goals, with an emphasis on research infrastructure.
- The efficiency of existing facilities will be enhanced and aligned with academic priorities.
- Additional space will be provided in the high priority areas of classroom/instructional labs and research labs.
- Operation and maintenance costs will be held in check by emphasizing renovation and renewal rather than construction.
- Residence hall construction on the Pittsburgh, Bradford, Greensburg, and Johnstown Campuses will provide competitive facilities to meet enrollment targets.
- Recreation and athletic facilities will be added at the Pittsburgh, Greensburg, and Johnstown Campuses.
- Utility and information technology infrastructure will be developed to support accelerating program demands.

Information technology planning

In 2000, the first strategic plan to guide the development of the technology environment within the University was approved. That plan, developed following widespread consultation, has broad support throughout the University and served as an excellent guide to remarkable progress. The plan represented an ambitious approach to improve technology infrastructure, facilities, and support while remaining flexible enough to adapt to rapidly changing technology. A balance of centralized and decentralized responsibilities was defined and appropriate budgets allocated in responses to this balance. The locus of responsibility for technology decisions was placed within academic units since the academic planning process must be the environment in which technology planning occurs.

In that initial plan, the then-current environment, in terms of infrastructure, support, programs, and resources, was described in detail to serve as a baseline against which to evaluate subsequent progress. Although the plan was often quite specific in describing initiatives that were planned and programs that were to be undertaken, it recognized that the rapidly changing nature of technology and its potential applications within the University's environment were highly dynamic and that the plan above all had to be flexible and responsive.

While these accomplishments are significant, they were seen only as progress toward the University's goal of providing a world-class information technology environment. Reliance upon information technology becomes ever greater, and the threats to the information technology environment from misuse and attack have never been greater. In response to these increasing threats, greater emphasis was placed on securing resources in a manner sensitive to the University's particular needs as a research institution, while continuing to provide students and faculty with the means to conduct their academic work.

In order to establish a new baseline and to evaluate the progress made since the implementation of the plan, an update was prepared in 2003 to cover the period through 2005 (see Appendix J). This update was designed to indicate what progress has been made, to describe those actions to be undertaken in the near future, and, most importantly, to provide the framework within which the development and delivery of information technology would be even more responsive, stable, and secure. The goals remain the same as those developed to guide the creation of the technology plan in 2000.

- The University will provide students, faculty, and staff with seamless, reliable, high-speed access to the University network, Internet, Internet2, and University resources from locations both on and off-campus. The network must fit the distributed nature of the academic community, support distance education as well as traditional instruction, and provide a full range of services (voice, data, multimedia). The network must be easy to use, high quality, yet cost-effective.
- Support options must be tailored to the needs of novice and sophisticated users across all disciplines. The identification and implementation of new support technologies will ensure that appropriate resources can be made available to programs and disciplines that require them. An extensive and structure support program will be more responsive to centralized and decentralized needs. As computer ownership shifts to the student body, support structures must be developed to provide a range of services to both resident and non-resident students, regardless of location.
- It is essential that students and faculty have access to technology tools to effectively engage in teaching, learning, and research activities appropriate to their areas of study. A learning environment must be sustained that supports increased and seamless access to information resources. Library resources must reflect the widespread adoption of digital resources and be accessible regardless of location. The full cost of investments in computing equipment and facilities will be built into technology cost models. Life-cycle replacement and total operating costs will be considered as part of the investment.

- The information architecture vision includes deploying modern information systems to enhance the business processes of the University and make them more effective. The University will provide the necessary tools to implement these systems effectively within the various administrative and academic units.

The University made significant progress in the next several years implementing many of the goals outlined in the original and updated plans. Among the most notable accomplishments that transformed the environment were the following:

Network

- Network infrastructure was completely upgraded to Gigabit Ethernet and is being upgraded again to 10 Gigabit Ethernet over the next several years.
- Available Internet bandwidth increased tenfold over a five-year period. The single connection replaced with redundant connections: one supporting students and the second supporting faculty, research labs, and administrative use.
- Campus-wide wireless plan developed with implementation over a two year period beginning in 2006.
- Network reconfigured to provide support for delivery of video and multimedia broadcasts.
- Plan implemented to provide permanent funding source for wired and wireless network maintenance.

Security

- The following network security initiatives were implemented to protect the University's network from internal misuse and external threats:
 - User Awareness Campaign to increase end user awareness of security threats and provide information on best practices.
 - Security guidelines and procedures were rewritten or new ones developed to establish security best practices and ensure University compliance with local, state, and federal regulations.
 - Spam and virus filtering service implemented to reduce unwanted email messages and to ensure that messages delivered to University mail systems are virus free.
 - Solution implemented to provide secure remote access to restricted University resources.
 - Software Update Service implemented to provide Microsoft Windows security patches, operating system, and application software updates.
 - Disaster recovery system implemented for University financial systems.

Enterprise Services

- A central directory service was developed as the authoritative source for identity information and authentication.
- My.pitt.edu, an enterprise web portal, was implemented to provide a single point of web access to University and Internet materials including online grades, billing statements, the Blackboard course management system, and many others.
- Peoplesoft's student information system product was selected and implemented.
- The Blackboard course management system implemented and sustained to provide support for instructor-led and online courses offered to University students.
- A comprehensive data warehouse was developed to aggregate data from enterprise systems for the purpose of analysis. A leading business intelligence tool was acquired to facilitate management access to critical information.
- The enterprise web infrastructure was replaced and has been expanded to provide support for content management, database access, and server side programming.

Network Operations Center

- State-of-the-art network operations center was implemented to proactively identify, troubleshoot, and resolve network and critical enterprise service problems.

Support Services

- Technology Help Desk services are provided 24 hours per day, seven days per week to assist students, faculty, and staff with technology-related questions and problems.
- Consulting services are provided to resident and off campus students with personal computer problems.
- Faculty are provided access to software tools and in-person consulting services.
- Seven full-service computing labs are available to students. Two of these are available on a 24-hour basis. All facilities have computer workstations, scanners, and high speed printing services.

Telecommunications

- Telecommunications equipment continues to be upgraded at all campuses to sustain already high levels of service. Newest equipment has IP telephony support.
- Voice mail systems were upgraded to support modular messaging service capabilities.

PLANNING AND BUDGETING SYSTEM ASSESSMENT

The University's Planning and Budgeting System (PBS) was established in 1992. It was evaluated in 1996 and again in 2002 by an ad hoc committee of faculty, staff, and administrators to evaluate how well the PBS had accomplished its purposes. The establishing document for the PBS states the following purposes to be used in evaluating the system.

- Increase openness and sharing of information, participation in the decision making process, and accountability. PBS should allow administrators, faculty, staff, students, and regional campus Advisory Boards to have full knowledge of, and to take part in, planning and budgeting activities at all levels. PBS should also ensure that planning and budgeting decision-makers are accountable to the University community and other relevant constituencies.
- Improve the ability of administrators, faculty, staff, and students to make sound decisions. PBS should increase interaction among departments, responsibility centers, and senior vice chancellor areas, improve the ability of planners to anticipate needs and avoid crises, and enhance the quality of planning and budgeting decisions. It should reinforce the benefits of examining trends, improving coordination of planning and budgeting, and looking at long-term opportunities and results.
- Help department, responsibility center, and senior vice chancellor area heads function effectively. PBS should increase understanding of and support for the work of persons exercising responsible leadership.
- Ensure maintenance and achievement of performance standards. PBS should promote the cost-effective use of resources, fair and open performance appraisals, and constant improvement in programs and services.
- Enhance the University. PBS should provide visible evidence of achievement of basic mission and goals of the University, responsibility centers, and departments.

The ad hoc committee used the following methods of evaluated the Planning and Budgeting System. All current members of Planning and Budgeting Committees (PBC's) and the University Planning and Budgeting Committee (UPBC) received a questionnaire modeled on the one used by the 1996 Ad Hoc

Committee. The similarity in questions enabled a rough comparison with the results of the earlier evaluation. Open comments were solicited with the questionnaire. In addition, all University faculty received a short questionnaire to reveal the general level of awareness of the PBS and the perceived access to decision making available to faculty at large. Open comments were also solicited and received from the full faculty survey respondents.

Interviews were conducted with chairpersons and members of selected PBC's. Topics of discussion included such issues as how members are selected, what kinds of matters are regularly addressed, how the organization has evolved, the relation of the committee to existing institutional structures, whether the PBC has been useful, does it increase collegiality, and any changes suggested. A discussion with the Expanded Executive Committee of the University Senate was also held. Topics discussed included the relation of Senate committees with the PBS, including whether the committees' goals were augmented or diminished by the PBS. The Expanded Executive Committee includes three committee chairs and the President and Immediate Past President of the Senate, all of whom either currently serve on the UPBC, or have served on the UPBC recently. This interview was useful in exploring the functioning of the UPBC and its relationship with Senate.

This second five-year review of the Planning and Budgeting System was completed in March 2003, recommending its continuance and offering recommendations to strengthen its effectiveness in schools and departments.

In summary, the University has continued to provide enhanced management information, outlined a second comprehensive facilities plan that builds on previous success, maintained an ongoing information technology plan to keep pace with the environment of rapid change and demands of users, and evaluated management processes to ensure achievement of the goals of the Planning and Budgeting System.

APPENDIX B

Management Letters

August 17, 2006

August 19, 2005

APPENDIX C

IPEDS Finance Submissions

FY 2005

FY 2004

FY 2003

APPENDIX D

University of Pittsburgh Assessment Plan

APPENDIX F

Academic Program Evaluations Over the Past Five Years

APPENDIX H

Report on Student Outcomes Assessment