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Assessing the brain metabolism of low-birthweight babies is but one use of the Bioflow monitoring device (shown here in prototype) that Nursing's Dr. Barbara Medoff-Cooper has developed with Dr. Mitchell Litt of Bioengineering and Dr. Reuben Kron of Psychiatry. A *Compass* feature on page 13 tells how the instrument works to help assess babies at risk and determine when they can go home. The device is expected to go on the market in two years.

The nurse seated at right is Jacqueline M. McGrath of the project staff at the School of Nursing. Standing is Nursing student Christine Kelly.

Photo by Gates H. Rhodes



News in Brief

Ivy Day Awards

Nominations are now open for the leadership and service awards presented to outstanding seniors and undergraduates on Ivy Day. Forms are available online at dolphins.upenn.edu/~oslaf/ivyawards.html; or may be picked up in 110 Houston Hall. All members of the University community can submit nominations. Deadline: February 14, 1997.

Website "21"

The 21st Century Project for the Undergraduate Experience now has a website, designed and produced by Peter Berk (GSE), Mandy Taylor (C '99), Alex Edelman (C '97), and S. Morgan Friedman (C '98). In addition to information on the 21st Century Project it has a form for comments and suggestions: <http://www.upenn.edu/provost/21st/>

Memorial Service for Coach Leary

A memorial service for Cissie Leary, coach of the women's tennis team for 20 years until her death on November 23, will be held at the Annenberg School Theater at 11 a.m. on Saturday, February 1.

In accordance with Coach Leary's wishes, the women's tennis team will continue with her plans to hold the annual All-Star Invitational on Sunday, February 2, from 10 a.m.-1 p.m. at the Levy Tennis Pavilion. For more information, call Jan Bernstein (201) 538-0800 or Peggy Sobul, 898-8899.

Revamping Voice Mail at Benefits

Human Resources has implemented a new version of its Benefits Voice Mail System, with fewer tiers in the information process and a rank-ordered menu that puts the most-requested options closer to the start of the menu.

Callers to 898-7281 will also find customized mailboxes and greetings from the HR staff members who provide the information (adopted so that callers can more easily associate names and voices with staff functions), plus an option to talk live with a receptionist during business hours.

"The new system, coupled with enhanced Human Resources staff training on its use, is part of an overall HR goal of providing the Penn community with the highest levels of service," said Bruce Fisher, manager of employee communications.

University Council Agenda

Wednesday, January 22, 1997, 4 to 6 p.m.

McClelland Hall, The Quadrangle

Members of the University who wish to attend as observers should so indicate to the Office of the Secretary, 898-7005.

- I. Approval of the minutes of December 4, 1996, meeting.
- II. Reports of the President and the Provost, and of the chairs of the Council Steering Committee, Graduate and Professional Student Assembly, Undergraduate Assembly, Penn Professional Staff Assembly, and A-3 Assembly. *Reports and clarifications: 30 minutes.*
- III. NCAA Review Report (*Almanac Supplement* December 10, 1996). *Presentation 15 minutes, discussion 15 minutes.*
- IV. Council Committee Progress Reports on Admissions, Bookstore, Facilities, Research, and Safety and Security. *Presentation 5 minutes each; discussion 5 minutes each.*

Campus Panhandling: A Program to Change It

A successful demonstration project to discourage panhandling, started late last year with two Wawa Food Markets on campus, is set to expand this semester.

The project, a joint effort of Penn, University City-area merchants and local social-service agencies aims to change the ways of well-meaning people who would otherwise give change to panhandlers.

Under the recently-launched program, Penn's Office of Community Relations pairs local social-service agencies with merchants seeking to discourage panhandling around their stores. Merchants agree to set up collection boxes for the agencies and receive leaflets that can be handed out to customers.

Since the program began in early December, the results at the Wawas have been encouraging. "In the first two weeks, we collected over \$50 at our store, mostly from students," said Al Madeira, manager of the Wawa at 36th and Chestnut streets. "And we've seen less panhandling activity around our store both during the day and at night," since the demonstration began. Joe Gallagher, the manager at the 38th and Spruce streets Wawa, also reported a decrease in panhandling around his store.

The 36th and Chestnut Wawa has joined with Horizon House, which provides counseling and support services for individuals with substance-abuse problems. Donations made at the 38th and Spruce location help the University City Hospitality Coalition feed local homeless people. These two businesses form the core of a program that will be expanded to other area merchants in the next few months.

"The goal of this campaign is twofold: To raise community awareness of what really happens when people give change to panhandlers, and to raise money for organizations that can make real change in the lives of panhandlers and the homeless," said Community Relations Director Glenn Bryan. "Studies have shown that the overwhelming majority of street beggars have substance-abuse or other health problems, and that money given directly to them usually goes to support the panhandler's problem.

"In addition, the presence of panhandlers in an area contributes to perceptions that a community is disorderly, and hence unsafe."

— Sandy Smith, News & Public Affairs

Death of Dr. Thimann, Pioneering Plant Physiologist

Dr. Kenneth Vivian Thimann, one of the world's leading botanists and a visiting scientist in the department of cell and developmental biology here during the last five years of his distinguished career, died on January 15 at the age of 92.

A pioneering researcher in plant physiology, Dr. Thimann was best known for describing the functions of hormones in the control and development of plants. He identified the growth hormone known as auxin and characterized its chemical structure, a discovery of critical importance to the agriculture and horticulture industries. He was also highly regarded for his research on the biosynthesis of pigments responsible for the colors of flowers and fruits; the action of various zones of the light spectrum on photosynthesis; and, later in life, the factors controlling the mechanism of the aging of leaves.

In 1982 Dr. Thimann won the Balzan Prize, an honor awarded yearly in areas not covered by the Nobel Prizes. The prize committee wrote that he was, "an inspiring leader of more than a generation of botanists and is regarded as the doyen of a line of research that has revolutionized plant physiology." Other honors included membership in the National Academy of Sciences, the American Academy of Arts and Sciences, the American Philosophical Society and international scientific societies in many countries. He held honorary degrees from Harvard, Brown, the University of Basel in Switzerland, and the University of Clermont-Ferrand in France.

He wrote or co-authored about 300 research papers and several books including two that are considered landmarks in the development of modern botany: the 1937 *Phytohormones*, (with F.W. Went), and *The Life of Bacteria*, 1955.

Dr. Thimann, born and educated in England, came to the U.S. in 1930 as an instructor in bacteriology and biochemistry at California Institute of Technology. He joined Harvard in 1935 and taught there for 30 years. He was a technical consultant to the U.S. Navy during World War II, working with the Navy's operations research group in Washington, D.C., London and Pearl Harbor.

In 1965, he became professor of biology at the University of California at Santa Cruz and the first provost of Crown College, the third of UCSC's eight academic colleges. Upon his retirement as provost in 1972 UCSC renamed its first biological sciences research facility for him; he remained active in research and university affairs there for many years.

In 1989, Dr. Thimann moved to Haverford to be near his three daughters. He set up a collaboration with his oldest daughter, Dr. Vivianne T. Nachmias, who is professor of cell biology at Penn's School of Medicine. As a visiting scientist, he continued to work and publish on the relation of actin and plant cell elongation for another five years. At the Quadrangle where he lived, he gave informal lectures to the retirees on how leaves change color in the fall and on Japanese gardens, while tending his own gardens outside and in the greenhouse, planting many bulbs each fall and growing delphiniums, roses and lilies among other plants.

Dr. Thimann is survived by his daughters, Dr. Nachmias of Penn; Dr. Karen T. Romer, a former VPUL staff member who is now associate dean at Brown University; and the Providence artist Linda Dewing; and by six grandchildren and two great grandchildren.

SENATE From the Chair

Under the Faculty Senate Rules formal notification to members may be accomplished by publication in Almanac. The following is published under that rule:

To: Members of the Standing Faculty
From: Peter J. Kuriloff, Chair

Nominations for Offices Requested

In accordance with the Rules of the Faculty Senate you are invited to suggest candidates for the posts and terms stated below, with supporting letters if desired. Candidates' names should be submitted promptly to Peter J. Kuriloff, Chair of the Faculty Senate, Box 12 College Hall/6303, or to David R. Williams, Chair of the Senate Nominating Committee, by telephone at 898-6947 or by email at williams@cattell.psych.upenn.edu.

The following posts are to be filled for 1997-98:

Chair-elect of the Senate (1-yr term)
(Incumbent: Vivian Seltzer)

Secretary-elect of the Senate (1-yr term)
(Incumbent: Jack Nagel)

Four At-large Members of the Senate Executive Committee (3-yr term)
(Incumbents: Ivar Berg
Frank I. Goodman
Ellen Prince
Cynthia Scalzi)

One At-large Member of the Senate Executive Committee (2-yr term)
(Incumbent: Laura L. Hayman)

Two Assistant Professor Members of the Senate Executive Committee (2-yr term)
(Incumbents: Sarah H. Kagan
One vacancy)

Three Members of the Senate Committee on Academic Freedom and Responsibility (3-yr term)
(Incumbents: Charles Bosk
David Brownlee
Vicki Mahaffey)

Three Members of the Senate Committee on Conduct (2-yr term)
(Incumbents: F. Gerard Adams
Elijah Anderson
Arnold J. Rosoff)

Two Members of the Senate Committee on the Economic Status of the Faculty (3-yr term)
(Incumbents: Laura L. Hayman
Robert C. Hornik)

Nominating Committee Elected

The Senate Executive Committee's slate of nominees for the Senate Nominating Committee was circulated to the Senate Membership on December 17, 1996. No additional nominations by petition have been received within the prescribed time. Therefore, according to the Senate Rules, the Executive Committee's slate is declared elected. Those elected are:

Charles Bosk (professor sociology)
Helen C. Davies (professor microbiology/medicine)
Michael B. Katz (professor history)
John C. Keene (professor city & regional planning)
Herbert S. Levine (professor economics)
Kathy McCauley (associate professor nursing)
Henry Teune (professor political science)
Peter Vaughan (associate professor social work)
David R. Williams (professor psychology), *Chair*

SENATE From the Senate Office

The following statement is published in accordance with the Senate Rules. Among other purposes, the publication of SEC actions is intended to stimulate discussion among the constituencies and their representatives. Please communicate your comments to Senate Chair Peter Kuriloff or Executive Assistant Carolyn Burdon, Box 12 College Hall/6303, 898-6943 or burdon@pobox.upenn.edu.

Actions Taken by the Senate Executive Committee Wednesday, January 15, 1997

1. Benefits Redesign. Chair Peter Kuriloff announced the Benefits Redesign Report is scheduled for publication in *Almanac* February 4, 1997 and discussion of it will be placed on the agenda of the February 5, 1997 SEC meeting. The Faculty Senate ad hoc Committee to Review the Benefits Redesign Report will begin meeting next week. (See Chair's column *Almanac* January 14, 1997.) It will be briefed by the executive vice president, deputy provost, associate provost, and the University's consultants. Members of the ad hoc committee will also attend the SEC meeting to get input from the community. The ad hoc committee and SEC will work together with all deliberate speed to insure the faculty voice helps shape these proposals in ways that are beneficial to the University and the faculty.

2. Undergraduate Assembly-Faculty Pairing. SEC members were encouraged to participate in the undergraduate student project aimed at bringing together faculty and students sharing similar interests. SEC members responded enthusiastically and will be contacting students over the next few weeks.

3. Academic Planning and Budget Committee and Capital Council. Past Senate Chair William Kissick reported that since the last SEC meeting the Academic Planning and Budget Committee has held meetings for two hours twice a week devoted exclusively to benefits redesign. Much of the discussion was around health care. Several SEC members were concerned about consultation with the faculty and SEC was reminded that there are nine faculty on the AP&BC, five chosen by SEC. A SEC member pointed out that the Internal Revenue Service triggered the need to change the retirement plan and bring it into compliance.

Capital Council met but no votes were taken.

4. Senate Nominating Committee. David R. Williams (psychology) was elected as chair of the Senate Nominating Committee (see below left).

5. Senate Committee on Committees. Faculty Senate Chair-elect Vivian Seltzer (social work) was elected as chair of the committee.

6. Just cause revision. SEC approved the subcommittee's latest language and style revisions. It will now be sent for review by the associate provost and trustee subcommittee and then the amendments will be forwarded to the faculty for a vote.

Discussion then centered on a problem with the Policy on Misconduct in Research. (This policy had been combined with the proposed just cause revision but has since been disaggregated. The misconduct policy in the Handbook for Faculty and Academic Administrators is the policy currently in force.) The problem concerns how to deal with a procedural error made in the course of a case and whether the error should be corrected immediately or at the end of the process. Further, should two parallel procedures be available to the faculty member simultaneously, e.g. access to the faculty grievance procedure while using the just cause procedure. It was recommended that a faculty member be able to complete the faculty grievance procedure prior to being required to go before a just cause committee in his or her school. Another SEC member recommended that one process be cleared up before moving to the next step; otherwise this could become a vehicle for delay.

SEC appointed Charles Mooney and Frank Goodman as a subcommittee to work out problems in the misconduct policy with the provost. Frank Goodman was asked to provide SEC with a one page flow chart for a misconduct in research case.

7. Open Forum with the Provost. A lively discussion centered on: difficulties with the frustrating regulations of the INS and IRS for paying an honorarium to a foreign faculty guest lecturer; the need to prepare Ph.D. students realistically for the challenges of the job market; and the need to hold down the rising cost of tuition particularly in relation to the CPI.

The following was published For Comment on June 18, 1996, and has been forwarded for publication Of Record by the University Information Security Officer.

Administrative Computing Security Policy

Purpose

The purpose of this policy is to ensure that faculty and staff:

- Experience uninterrupted access to administrative data and systems;
- Trust the integrity of administrative data and systems, and;
- Trust that sensitive information is treated with care.

Scope

This policy pertains to all University administrative systems. Administrative systems are defined as any University computer systems used in planning, managing, or operating a major administrative function of the University, excluding those systems directly supporting instruction or research. This policy also pertains to any associated administrative data that resides on end-users' local desktop computers, and/or departmental servers.

Policy

Penn administrative systems are for use by authorized Penn faculty and staff, and by selected faculty and staff of the University of Pennsylvania Medical Center. Limited access is also granted, in some cases, to students to view and maintain limited personal information. When students are to be given access to administrative systems for purposes other than viewing/updating limited personal information, and when part-time, temporary or contract workers, and University of Pennsylvania vendors are to be given access to administrative systems, written authorization is required (renewed annually) from Penn faculty or staff. The faculty or staff member approving access is responsible for all use of the access granted. All use of administrative systems and data must be consistent with the requirements specified by the individual ultimately responsible for the data, the Data Steward.

User Responsibilities

University systems and data are for use only by the individual granted access. Access must not be shared, since shared use often leads to abuse. User accounts must be protected with passwords. Since short passwords or dictionary words are easy to guess using automated password crackers, any re-usable passwords must be at least seven characters long; must not be simple, dictionary words; must contain a mix of alphabetic, numeric and special characters (e.g. “*^%\$%\$#”); and must change at least every sixty days. Login scripts must not include scripted passwords.

Users must be sure that critical data on their personal computers are backed up and stored remotely.

Computer viruses can waste time and can destroy data. The user must be sure that the most current anti-virus software is running on his or her computer.

The user must ensure that any restricted information stored on his/her personal computer is safeguarded, through either physical security (locked offices, or keyboards), access control software, or encryption.

When a computer is left signed on, it is easy for someone to gain unauthorized access. Users must either sign off of accounts before they leave their computer, or restrict access by some other means (locked office/keyboard, desktop access control, or a password-protected screen saver). Note, however, that many access control packages and screen savers can be easily bypassed.

Users must abide by the terms of all software licenses. (See Penn's [policy on Unauthorized Copying or Use of Licensed Computer Software](#)).

Data Steward Responsibilities

Data Stewards are responsible for defining the security and integrity requirements of their respective categories of data. All uses of data must be approved by the respective Data Steward.

Application Steward Responsibilities

Application Stewards, those sponsors of new or existing computer applications, are responsible for ensuring that their computing applica-

tions conform to the Data Steward's requirements for all categories of data used by the application.

System Administrator Responsibilities

Systems administrators are responsible for enforcing restrictions specified by Data Stewards and Application Stewards.

Since short passwords or dictionary words are easy to guess using automated password crackers, any re-usable passwords must be at least seven characters long; must not be simple, dictionary words; must contain a mix of alphabetic, numeric and special characters (e.g. “*^%\$%\$#”); and must change at least every sixty days. To prevent password sniffing, systems administrators are encouraged to implement one-time or encrypted password authentication.

Dormant (unused) accounts make attractive targets to intruders, since no one will likely notice the activity. Accounts must be regularly reviewed for inactivity, and any dormant accounts suspended.

Temporary access privileges granted to students, contractors/temps/part-timers and vendors must be for a period no longer than one year or until the end of the contract term, whichever is sooner, and may only be created and renewed with written authorization from a Penn faculty or staff member.

Special care should be taken with privileged accounts (including, e.g., but not limited to “root” for UNIX and “supervisor” for Netware), commensurate with the privileges afforded the account. Systems administrators must never allow a re-usable password for the most privileged accounts to travel over the network un-encrypted. Passwords for privileged accounts should be given only to people with a need for privileged access.

Vendor- or author-provided security patches must be evaluated for compatibility, and installed as soon as practical.

Wherever feasible, a login banner, stating that the system is for authorized use only, should be displayed for anyone attempting to connect to the system.

Where feasible, all operating system, version/release numbers, and vendor information provided in login/sign-on banners should be limited or disabled. Providing this information makes attacks easier by allowing intruders to pinpoint hosts with known security vulnerabilities.

Wherever feasible, login restrictions (by time of day, by system address, etc.) should be implemented.

Logs of user activity must be retained for a period of at least six months. Knowledge that logs are kept acts as a deterrent to abuse. Logs are also essential in investigating incidents after the fact. Logs should include (where feasible) the time and date of activities, the user ID, commands (and command arguments) executed, ID of either the local terminal or remote computer initiating the connection, associated system job or process number, and error conditions (failed/rejected attempts, failures in consistency checks, etc.).

Systems administrators are responsible for taking proactive steps to assure the security of the server. Examples include regularly checking for weak user passwords and checking the system for common security vulnerabilities.

Systems administrators must implement backup procedures consistent with the requirements of the Data Steward. (See Data Stewardship policy)

Systems administrators are responsible for compliance with each relevant campus operating-system-specific security standard.

Management Responsibilities

Within reason, management (School/Unit/Department management) must make available the resources that users and systems administrators need to carry out the responsibilities above.

Management must retain copies of the original software licenses for commercial software used in their department. For site-licensed software,

management must retain a copy of the site license. Management must ensure compliance with the terms of all commercial software licenses.

Management must ensure the physical security of servers. It is strongly recommended that departmental and central servers be kept in a locked area. Servers must be protected from power surges, power failures, water damage, overheating, fire, and other physical threats.

Management must approve all modems installed on Penn administrative computers in their department. Unauthorized modem connections pose a security risk because if left uncontrolled, widespread, unauthenticated entry to PennNet becomes possible. Sensitive areas should consider the use of dial-back or caller-id modems. All modem access must be authenticated.

Management of departments/units providing University administrative information systems must ensure that all users have viewed a confidentiality statement at the time that access is granted, and annually thereafter (statement attached).

Management/supervisors must ensure that access to administrative systems is revoked or modified as appropriate upon employee resignation, termination, job changes, or when grants or contracts expire.

Exceptions

Exceptions to this policy must be approved in writing by the Vice Provost for Information Systems and Computing (VPISC).

Enforcement

Facilities, departments/units, or individuals in violation of this policy may be denied access at the discretion of the VPISC.

Violations of this policy will be handled under the University Policy on Adherence to University Policy for violations by employees and by the Office of Student Conduct or the respective School for violations by students.

Management or supervisors may be required to resolve violations by members of their staff.

Effective Date

May 1, 1997.

Confidentiality Notice

As an individual whose position requires interaction with any or all of the University's administrative information systems, you may be provided with direct access to confidential and valuable data and/or use of data/

voice systems. In the interest of maintaining the integrity of these Systems and of ensuring the security and proper use of University resources, you must:

- Maintain the confidentiality of your password for all systems to which you have access.
- Maintain in strictest confidence the data to which you have access. Any confidential information must not be shared in any manner with others who are unauthorized to view such data.
- Use your access to the University's systems for the sole purpose of conducting official business of the University. Understand that the use of these systems and their data for personal purposes is prohibited.
- Understand that any abuse of access to the University's systems and their data, any illegal use or copying of software, any misuse of the University's equipment may result in disciplinary action, loss of access to the University's systems, and possible sanctions consistent with the University Policy on Adherence to University Policy.

The following notice is issued as a reminder of the policy published Of Record in Almanac September 15, 1992.

On Unauthorized Copying of Copyrighted Software

The University of Pennsylvania does not condone or tolerate the unauthorized copying of licensed computer software by staff, faculty, or students. The University shall adhere to its contractual responsibilities and shall comply with all copyright laws, and expects all members of the University community to do so as well. Members of the University community who violate this policy may be subject to discipline through standard University procedures. An individual or University department engaged in the unauthorized copying or use of software may also face civil suit, criminal charges, and/or penalties and fines. Subject to the facts and circumstances of each case, such individuals or departments shall be solely responsible for their defense and any resulting liability.

If you have questions about this policy, please contact Dave Millar, University Information Security Officer, at 898-2172.

— Dave Millar,
University Information Security Officer

Speaking Out

Time to Pressure IRS

I have read the letters by Professor White of the Chemistry Department and Professor Tomazinis of City & Regional Planning concerning the Comptroller's practice of withholding 30% of the expense reimbursement of foreign scholars. They are not the first faculty member to experience embarrassment and frustration with this practice of the Comptroller.

A year ago I invited a scholar from Toronto to speak to a seminar and agreed to pay him a \$200 honorarium and transportation. The University deducted 30% from both and sent him a check for less than his airfare. In March, I wrote Mr. Butler a letter questioning the payment. He replied that this was in

compliance with the position of the IRS.

This deduction is not made in compliance with any IRS regulations; it was on the basis of only an "informal position," which has no legal effect. The University could question this "informal position" by requesting an opinion letter which could lead to fuller consideration by the IRS. If this failed, the University, joined by other educational institutions, could set up a test case to challenge the ruling in court. The Comptroller's Office did not indicate that it had made any effort to question this "informal position" of the IRS; it apparently just rolled over dead, accepting without protest what Mr. Butler characterized as "an unreasonable position."

It seems to me that the University, along with other educational institutions who are

seriously affected, should immediately pressure the IRS to abandon its irrational "informal position," and if necessary, challenge it in court. The Comptroller's acquiescence it has done far too much damage already.

— Clyde W. Summers
Professor of Law

Response to Professor Summers

I am writing in order to reply to the letter from Dr. Summers, to state that the Office of the Comptroller is actively pursuing, in consultation with the Office of the Provost and school representatives, a number of options directed toward the resolution of this important issue.

— Kenneth B. Campbell
Comptroller

Speaking Out welcomes reader contributions. Short timely letters on University issues can be accepted Thursday noon for the following Tuesday's issue, subject to right-of-reply guidelines. Advance notice of intention to submit is appreciated.—Ed.

Interim Report of the Alcohol and Other Drug Task Force

I. Background

The Alcohol and Other Drug Task Force was convened by the Vice Provost for University Life in the spring of 1991 in response to an increase in the number of alcohol and drug-related incidents on campus. The original charge of the Task Force was to develop strategies and services to address the use of drugs and the abuse of alcohol within the campus community. The Task Force, with representatives from the entire campus community including students, staff, faculty, alumni and parents, has revised the alcohol policy, and has developed procedures, programs and interventions in response to this charge.

Meeting monthly, participants share information about resources and programming, evaluate the success of campus efforts, review protocols and chart new courses of action. For six years, the Task Force has been the mechanism through which information about the various campus efforts to address alcohol and other drug issues is discussed. The result of this ongoing collaboration and coordination is a comprehensive approach that is both constant and ever-evolving.

Penn's efforts reflect a growing national concern about alcohol and drug use on college campuses. Recently, Penn's Alcohol and Other Drug Task Force was cited in *Promising Practices: Campus Alcohol Strategies Sourcebook* (1996) by the Center for the Advancement of Public Health as an exemplary program structured to reduce alcohol abuse and its consequences on college campuses.

In April, 1993, the Task Force in its interim report cited a 1990 Carnegie Foundation survey, which acknowledged alcohol abuse as the campus life issue of college presidents' greatest concern. More recently, according to *Alcohol and Drugs on American College Campuses—A Report to College Presidents* (1996), there is a clear relationship between alcohol use and GPA. The report states that, "More frequent involvement with alcohol is accompanied by lower GPA's." In addition, the report indicates that other consequences of alcohol abuse disrupt the educational process, and the quality of campus life. These behaviors are shown to have a significant impact on retention, academic failure, dormitory damage, sexual assault and the use of health care facilities.

In late 1994, results of the Harvard University School of Public Health Study, "Health and Behavioral Consequences of Binge Drinking in College," confirmed the correlation between alcohol use and coerced or unwanted sexual activity and other types of violent behaviors. The study was also able to determine the extent to which the non-user or occasional user (51%) felt that his or her safety, health and quality of life were compromised by the binge drinking of others (49%).

In 1995, 1283 Penn students participated in the Cooperative Institutional Research Program (CIRP), which surveys entering first year students. 66.2% acknowledged that they drank beer and 68.3% acknowledged that they drank either wine or liquor. 7.09% indicated that they smoked cigarettes. Given this level of experience that our entering first year students have disclosed, it is apparent that solutions to reduce alcohol and other drug abuse on campus will continue to be a significant challenge.

In responding to this continuing challenge, the Task Force has been actively engaged, and a summary of these efforts since 1993 is described in section II of this report. Section III highlights current initiatives, and Section IV outlines future needs.

II. Status of Institutional Efforts

The Task Force over time has worked to develop policies and programs to address the issue of high-risk drinking and substance abuse. We believe the success we have noted thus far may be attributed to both our policy refinements and our campus educational efforts. While we have not yet realized the reduction in alcohol abuse that we desire, we are committed to finding ways of reaching this goal.

In the Task Force's 1993 Interim Report, we acknowledged the establishment of work groups to coordinate policy revision and educational efforts. These groups were responsible for two major improvements and two significant recommendations.

The major improvements included the development of event planning guidelines, which delineate protocols for campus events involving the serving of alcoholic beverages. The establishment of Class Boards provides for social programming to enhance a sense of class spirit, unity and pride for freshmen, sophomores and juniors. These class boards provide alternatives to alcohol-related activities, and give all undergraduates an

opportunity to experience leadership roles. The class boards continue to provide creative social options for their respective groups.

One of the recommendations in the 1993 report included the development of a centralized system for collecting data regarding alcohol and drug-related incidents. This data collection system would provide for uniform and consistent responses, and accurate assessments of the problem and progress being made. In October, 1996, a pilot data collection program was initiated under the auspices of the Vice Provost for University Life. An overview of this program is presented in Section III of this report.

The other significant recommendation proposed in the 1993 Task Force Report was the development of a monitoring system, which would encourage a shared responsibility for the monitoring of campus activities involving alcohol. Late in 1996, the InterFraternity Council introduced a process for monitoring Greek social events. A more detailed outline of this program is described in Section III of this report.

III. Current Initiatives and Activities

Since its inception, the Task Force has sought to ensure that campus efforts are multi-disciplinary in approach and have the potential to provide the appropriate level of education, counseling and enforcement strategies for students, faculty, and staff. This section will describe in more detail the status of two recommendations from our 1993 report—the pilot Data Collection Program and the Monitoring System for Greek Social Events. The implementation of these initiatives will greatly enhance our ability to identify those parts of the campus community that most need the resources available. Additionally, we will describe the more recent activities offered by the offices that provide educational and social programming relevant to the goals of the Task Force. In concluding, we will summarize those efforts which are a continuation of services offered since 1993.

Data Collection Program: A subcommittee of the Task Force developed a reporting form (available on request) designed to collect needs assessment data on the use and abuse of alcohol and other substances on campus. The confidential and anonymous form was then reviewed with various campus groups with the intention of making the form easy to use and relevant to the mission of the Task Force. This pilot program began on October 1, 1996. Ten training sessions were conducted during the 1996 Fall semester. Participants from the following departments were instructed on when and how to best use the form: Athletics, Academic Support Services, Advisors from the College, Nursing and Wharton Schools, Counseling and Psychological Services, Fraternity and Sorority Affairs, Housing and Residence Life, Public Safety, Office of Student Conduct, Student Health Services. VPUL is the central data-keeping agent for these forms. Centralizing this information is crucial to the efficient use of resources by staff and students and to the goal of furthering the work of the Task Force in advising Penn administration about additional resources or policies needed.

Monitoring System for Greek Social Events: Beginning in the Spring Semester 1997, registered parties hosted by chapters of the Interfraternity Council will be visited by Graduate Student Observers. These Observers will be trained through the TIPS program (a four-hour session designed to teach observers how to identify the signs of intoxication). Observers will carry a check list of possible Alcohol and Other Drug Policy violations and a cellular phone. They will note violations and contact Penn police to close parties in the case of violations. The Office of Fraternity and Sorority Affairs will follow up on all violations.

Office of Health Education/Drug and Alcohol Resource Team: Campus wide prevention programs are organized and facilitated by the Alcohol and Other Drug Health Educator and peer educators from D.A.R.T. (Drug and Alcohol Resource Team). Prevention programming from September, 1995 through December, 1996 included the following:

- Resource table at two CUPID registrations, two New Student Orientation sessions, three safety fairs, and a health fair
- Twenty-five small group workshops for first year students in their residence halls
- Eight workshops for the pledge classes within the Greek System
- Five workshops for Upperclass students in residence halls
- Two combined topic workshops with the F.L.A.S.H. (Facilitating Learning About Sexual Health) peer education program

(continued next page)

- One workshop for International Students
- Seven intensive education sessions for AOD Policy violators referred by the Offices of Student Conduct and Housing and Residence Life
- Eighteen workshops specific to the concerns of Athletes (15 teams)
- Mocktails Event and AOD information at a New Student Orientation Activity
- Seven Inservice Training sessions about alcohol and other drug issues for Graduate and Undergraduate Resident Advisors and Graduate Fellows

• Campus wide Alcohol and Other Drug Awareness Activities in conjunction with Student Life Activities and Facilities and other offices or groups (i.e. Marijuana Debate, Jean Kilbourne Lecture, Block Party)

Student Life Activities and Facilities: In the 1993 report, the Social Planning Committee of the Task Force stated, "that efforts to provide social programming opportunities will not eliminate abusive alcohol consumption on campus but are part of a larger set of changes that need to take place on campus...members acknowledge that institutionalizing substance-free social events will take several years." Several years have passed and the changes proposed have been institutionalized. Between September 1995 and December, 1996, student organizations such as the Class Boards, SPEC (Social Planning Events Committee), Student Activities Council, Connaissance, and others were responsible for organizing more than 188 different social activities. The activities included lectures by national speakers, dances, musical and theater arts performances, films, crafts fairs and much more. Access to information about these events is readily available through a web site:

<http://dolphins.upenn.edu/~oslaf/events.html>.

Continuing Initiatives and Activities: Alumni Relations posts notices about Pennsylvania Alcohol laws at all events and provides information about area 12-Step meetings to interested alumni. The Penn Life Sketches as part of New Student Orientation includes a sketch devoted to alcohol and other drug issues and coordinates with the Office of Health Education on a number of other orientation activities. The Faculty/Staff Assistance Program, Counseling and Psychological Services and the Penn Women's Center provide consultation, assessment, small group and individual counseling services around alcohol and other drug related issues. These departments serve the counseling needs of the entire University community. In order best to meet its task as one facet of the enforcement arm of the AOD policy, the Division of Public Safety presents to students and staff information about its role and aids in the data collection process through its recording of incidents involving alcohol or other drug use. Penn Police are often called to transport students suffering from an alcohol or other drug medical emergency to the hospital. The Office of Student Conduct works closely with the staff from Counseling and Psychological Services and the Office of Health Education to refer properly students whose involvement in a judicial incident includes an alcohol or other drug policy violation. This collaboration has resulted in more than 60 students being referred for some level of service in the last two years. The Departments of Housing and Residence Life and Academic Programs in Residences begin with a written "no tolerance" policy for underage drinking, drug and drug paraphernalia possession and use, and public use of alcohol by those who are of age. Subsequently, their staff is trained to implement social, recreational, and educational programs as preventive measures (35 since the Fall of 1995) and are prepared to deal with crisis and emergencies by using the expert resources of the University (approximately 20 alcohol and or drug related cases over the course of the last three semesters). The Office of Fraternity and Sorority Affairs meets each year with the leadership of the Greek System to review the varying policies that govern their social events with regard to alcohol use. In addition to the educational workshops offered through D.A.R.T., TIPS (Training for Intervention Procedures by Servers of Alcohol) training was made available in the Fall of 1996 and 110 members of the Greek System participated. New members are expected to be TIPS trained this Spring. OFSA has sponsored two large awareness presentations with a national speaker on the topic of alcohol misuse.

IV. Strategies as We Approach the Year 2000

Given the health, safety, educational and economic risks that alcohol and other drug misuse causes, continued efforts to reduce the factors that allow for such misuse are critical. Such efforts should build on successful strategies, and include strategies identified by national researchers. The success of any effort is dependent upon the level of participation by students in the planning process. The strategies listed below are all based on the premise that students, faculty and administrators need to work together to identify the problem and develop effective programs.

The Alcohol and Other Drug Task Force will work to:

1. *Improve the quality of participation and membership on the Task Force:*
 - a) increase student involvement with an invitation for representation

from these additional student groups: Bicultural InterGreek Council, Panhellenic Council, Resident Advisory Board, Graduate and Professional Student Association, Undergraduate Minorities Council, and the Undergraduate Assembly.

b) expand administrative participation by encouraging committee members to designate alternate representatives in their absence for Task Force meetings.

c) continue to invite concerned members of the University and local West Philadelphia communities (particularly businesses that serve or distribute alcohol) to share their concerns and to assist us with program planning and implementation.

2. *Develop a University-wide survey* in order to collect baseline data with regard to alcohol and other drug usage by students.

3. *Reduce access of alcohol to minors:*

a) support the monitoring/observer program recently proposed by the IFC and the Office of Fraternity and Sorority Affairs.

b) continue to provide a wide variety of social and recreational activities, such as those proposed by the Class Boards, Social Planning and Events Committee (SPEC), Committee for Tangible Change and the proposed activities associated with the development of the Perelman Quad.

4. *Maximize programming efforts to ensure a safe and healthy campus environment:*

a) identify students interested in establishing wellness communities, i.e. substance-free/smoke-free housing communities in University residences.

b) support consistent enforcement of the Alcohol and Other Drug policy by Penn Police and administrators.

V. Conclusion

The Alcohol and Other Drug Task Force is proud of its recognition as one of the national "programs of excellence" cited in the *Promising Practices; Campus Alcohol Strategies Sourcebook* (1996). In the Sourcebook's introduction, it cautions colleges and universities against developing initiatives or strategies that are "quick fixes" and "inappropriately considered 'solutions' when long-term comprehensive approaches are required." The Task Force's perennial existence is indicative of the University's commitment to developing more appropriate long-term approaches. The Task Force is confident that a healthier, safer campus with regard to alcohol and drug use and its negative consequences can be realized.

Task Force Members

Barbara Cassel, Office of Vice Provost for University Life, Co-Chair

Kate Ward-Gaus, Office of Health Education, SHS, Co-Chair

Carla Armbrister, Housing and Residence Life

Jonathan Brightbill, WH '97, DART

Donna Brown, Office of the Vice Provost for University Life

Tom Carrol, Office of Fraternity and Sorority Affairs

Damon Clemow, CAS '97, RA

Terry Conn, Office of Vice Provost for University Life

Lyn Davis, Office of Student Conduct

Adelaide Delluva, Faculty

Chris Dennis, Housing and Residence Life

Liz Droz, Counseling and Psychological Services

Steven Feld, Housing and Residence Life

Brenda Fraser, Office of the General Counsel

Michaela Farcas, Off Campus Living

Carol Schlie Femovich, Athletics

Gloria Gay, Penn Women's Center

William Gipson, Chaplain

Michele Goldfarb, Office of Student Conduct

Josh Gottheimer, CAS '97, IFC

Jordan Greenbaum, CAS '97, DART

Ron Jasner, Risk Management

Sheila Katz, Parents Program

Alice Kelley, Faculty

Sean Kennedy, Faculty

Robert Koonce, Athletics

Mark Lubow, CAS '98

Larry Moneta, Office of the Vice Provost for University Life

Laurie Reed, Academic Support Programs

Scott Reikofski, Office of Fraternity and Sorority Affairs

Judi Rogers, Wharton

Maureen Rush, Campus Police

Marilyn Silberberg, Counseling and Psychological Services

Sandra Soll, Faculty/Staff Assistance Program

Fran Walker, Office of Student Life Activities

Jennifer Wollman, Alumni Council

Comment on this report may be sent to Barbara Cassel at 3611 Locust Walk/6222, or by email to ovpul@pobox.

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OPPORTUNITIES at PENN

Listed below are the job opportunities at the University of Pennsylvania. To apply please visit:

University of Pennsylvania Job Application Center
Funderburg Information Center, 3401 Walnut Street, Ground Floor
Phone: 215-898-7285

Application Hours: Monday through Friday, 9 a.m.-1 p.m.

Positions are posted on a daily basis, Monday through Friday, at the following locations:

Application Center—Funderburg Center, 3401 Walnut Street (Ground level) 9 a.m.-1 p.m.

Blockley Hall—418 Guardian Drive (1st Floor and 2nd Floor)

Dental School—40th & Spruce St. (Basement-across from B-30)

Houston Hall—34th & Spruce St. (Basement-near the elevators)

Wharton—Steinberg Hall-Dietrich Hall (next to Room 303)

Job Opportunities and daily postings can also be accessed on the Human Resources web page (www.upenn.edu/hr/). A position must be posted for seven (7) calendar days before an offer can be made.

The University of Pennsylvania is an equal opportunity employer and does not discriminate on the basis of race, color, sex, sexual or affectional preference, age, religion, national or ethnic origin, disability or veteran status.

WHERE THE QUALIFICATIONS FOR A POSITION ARE DESCRIBED IN TERMS OF FORMAL EDUCATION OR TRAINING, PRIOR EXPERIENCE IN THE SAME FIELD MAY BE SUBSTITUTED.
 POSITIONS WITH FULL DESCRIPTIONS ARE THOSE MOST RECENTLY POSTED.

ANNENBERG SCHOOL

Specialist: Clyde Peterson

ADMIN. ASS'T I (121508CP) G9; \$17,614-21,991
 Annenberg School

ARTS AND SCIENCES

Specialist: Sue Hess

RESEARCH SPECIALIST JR./I (111410SH) Perform experiments, interpret results & write reports pertaining to the construction of the cellular cytoskeleton; construct DNA expression plasmid, transgenic *Drosophila*, expression & purify recombinant proteins, gel electrophoresis & blotting, immunodetection of proteins; maintain stocks & order lab supplies. **Qualifications:** BA/BS in biology or related field. **RES. SPEC JR.:** experience in molecular biology or biochemistry preferred. **RES. SPEC. I:** one-three yrs. experience in molecular biology or chemistry. **Grade:** P1/P2; **Range:** \$20,291-26,368/\$22,351-29,098 1-16-97 Biology

ADMIN. ASS'T III (121606SH) Serve as receptionist; supervise work-study students; maintain department database; handle mail, reservation for rooms & equipment; maintain course rosters & staff directories; process book orders; handle requests for room keys; process course evaluations & change of grade forms; maintain supply inventory; maintain Web pages. **Qualifications:** Completion of H.S. business curriculum & related post H.S. training; two yrs. experience at the AAI level; working knowledge of FileMaker Pro & Word Perfect; excellent customer service skills; ability to work independently. **Grade:** G11; **Range:** \$20,497-26,008 1-13-96 Romance Languages

RESEARCH LAB TECH III (0122SH) Program experiments; test subjects; coordinate lab activities. **Qualifications:** BA/BS in psychology or science; research exp.; computer exp.; word processing; statistics & experimental design, esp. on Macintosh. **Grade:** G10; **Range:** \$19,261-23,999 1-13-97 Psychology
REGULAR PART-TIME (ASS'T LAB ANIMAL TECH) (0120SH) Maintain care of animal & their environment; operate mechanical cage washer & other equipment; clean & sanitize animal rooms, facility support spaces, equipment & supplies; assist in handling animals; provide food & water; unload & store supplies; assure security of facility. **Qualifications:** H.S. grad; one-two yrs. experience in a lab animal facility with animal care use preferred; must be able to lift heavy objects above shoulders; ability to learn quickly & act responsibly; job requires a lot of standing, kneeling & walking. (*Schedule: Wednesday-Sun-*

day, 9 a.m.-1 p.m.) **Grade:** G7; **Range:** \$8,206-10,215 1-13-96 Psychology
EXECUTIVE ASS'T II (121504SH) P8; \$39,655-52,015 12-6-96 Office of the Dean
LANGUAGE SPECIALIST (091108SH) P3; \$24,671-31,982 12-5-96 English Language Programs
ADMIN. ASS'T II/III (121548SH) G10/G11; \$19,261-23,999/\$20,497-26,008 1-3-97 Music

DENTAL SCHOOL

Specialist: Clyde Peterson

MANAGER I (121523CP) P2; \$22,351-29,098 12-24-96 Dental Care Center
RESEARCH SPECIALIST I (121604CP) P2; \$22,351-29,098 1-6-97 Anatomy/Histology
STAFF HYGIENIST (121525CP) (office in Bryn Mawr); P3; \$24,617-31,982 12-24-96 Dental Care Ctr.
ADMIN. ASS'T II (07830CP) G10; \$19,261-23,999 12-13-96 Pediatric Dentistry
CLERK II (121516CP) G6; \$16,010-19,658 12-20-96 Clinic Management
DENTAL ASS'T I (40 HRS) (121524CP) (office located in Bryn Mawr). G7; \$14,935-18,592 12-24-96 Dental Care Center
RECEPTIONIST II (121544CP) G6; \$14,008-17,201 12-16-96 Periodontics
TECH, X-RAY (CERTIFIED) (121526CP) G9; \$17,614-21,991 12-12-96 Radiology

ENGINEERING/APPLIED SCIENCE

Specialist: Clyde Peterson

FISCAL COORDINATOR III (0112CP) Preparation of proposal budgets & documents for transmittal to sponsors, working with PI's in determining needs & plans; assist with financial reporting of grants; monitor postings & allowability of costs to grants, overseeing work of administrative assistants; update & reconciliation of SFS systems transactions; maintain transactions database & files necessary for reporting & federal regulations; oversee reconciliations. **Qualifications:** BA/BS in accounting or business administration or equivalent; excellent interpersonal skills a must; knowledge of university systems, Lotus 1-2-3 required. **FISC. COORD. I:** experience in research-oriented business office pref. **FISC. COORD. II:** one-three yrs. exp. in research-oriented business office required. **Grade:** P1/P2; **Range:** \$20,291-26,368/\$22,351-29,098 1-14-97 Moore Business Office
RESEARCH SPECIALIST IV (0146CP) Perform mathematical analysis of the dislocation generation in metallic semi-conducting materials; carry out numeri-

cal analysis of the dislocation formation in the vicinity of cracks in metallic materials; maintain & update the molecular dynamics & Monte Carlo simulation programs on all computer in research group; maintain liaison with other research personnel; prepare reports on studies related to our research but carried out in other groups in order to define new research projects.

Qualifications: Master's in material science or equivalent experience; initiative, attention to detail; must be able to independently initiate a research program; ability to write research reports & proposals. **Grade:** P6; **Range:** \$32,857-42,591 1-17-97 MSE

PSYCHOLOGY TECH II (0125CP) Assist Private Investigator of Philadelphia School District Head Start Learning Center Grant; plan team objectives & monitor progress of same; responsible for data entry of information collected; use SAS, analyze data through exploration & confirmatory factor analysis; create graphs & tables for presentations; reconcile budget from federal progress reports; keep monthly records on budget, office supplies & duplicating; serve as office manager & liaison between project & business office; track & monitor personnel hours for grad students working on project. **Qualifications:** BA/BS in psychology; one-two yrs. Post baccalaureate research experience required; post baccalaureate research experience working with Head Start preferred; working knowledge of Microsoft Office & SAS statistical package; experience working as a member of an evaluation team helpful. **Grade:** G11; **Range:** \$20,497-26,008 1-17-97 Psychology in Education

TECHNICIAN, ELECTRONIC II (101303CP) Install & maintain network connections & cables in offices, classrooms, labs & wiring closets; respond to problem reports in faculty & staff offices; diagnose failures & arrange for repairs; maintain multi-media classroom computers & displays; train faculty to use classroom computers; maintain inventory of technician supplies; maintain computer security systems, including lock-downs & alarm systems. **Qualifications:** H.S. grad; tech school grad pref.; two-three yrs. related experience with PC operating systems; knowledge of PC hardware; Ethernet hardware & cabling; Windows 3.1, Win95, WinNT operating systems; willingness to learn & develop new skills; ability to work independently with minimum supervision, good working relationship with faculty & staff, attention to detail, ability to deal with a wide range of tech. assignments; ability to lift 50 lbs. **Grade:** G10; **Range:** \$19,261-23,999 1-16-97 Computer & Education Tech Services
ASSISTANT TO CHAIRMAN I (101225CP) P1; \$20,291-26,368 12-11-96 Electrical Engineering

EXECUTIVE VICE PRESIDENT

Specialist: Sue Hess

COORDINATOR II (0103SH) Ensure compliance with federal & state regulations; coordinate outreach program to provide on-site information sessions for work-study students, supervisors & business administrators; ensure that all SEO publications contain accurate & up-to-date information regarding Community Service; monitor & audit Federal Work-Study Community Service Program to ensure University's compliance with federal regulations. **Qualifications:** BA/BS required; at least two yrs. Student services environment; excellent computer skills required; WordPerfect, Paradox experience required; strong written & oral communication skills; ability to work independently & handle multiple tasks; supervisory experience desirable. **Grade:** P2; **Range:** \$22,351-29,098 1-13-96 Student Financial Services

FACILITIES PLANNER I (0108SH) Prepare program of requirements for specific University capital improvement projects; review cost estimates & project budgets; prepare sketches &/or layouts as required; present completed programs to building committees; assist in preparing contracts for architecture, engineering or interior design services; schedule submittal for review; schedule & coordinate required meetings for review with representatives of faculty, administra-

OPPORTUNITIES at PENN

tions & appropriate public/private agencies. **Qualifications:** BA/BS in architecture or appropriate engineering degree; three yrs. progressively responsible experience in field of architecture or engineering with involvement in design of major building renovations or new construction; professional registration or certification preferred. **Grade:** P5; **Range:** \$29,664-38,677 1-14-97 Facilities Planning

GRAPHIC DESIGNER II (0119SH) Responsible for development & production of a wide range of communications materials using conventional methods as well as computer generated design & production techniques; design consultation with clients & publications staff; conceptual design development & production implementation of catalogues, brochures, advertisements, flyers, logos, newsletters & direct mail pieces. **Qualifications:** BA/BS in graphic design; min. three yrs. experience as graphic designer; thorough knowledge of computer design & Macintosh equipment & progs.; experience with Quark Xpress, Aldus PageMaker, Aldus Freehand, Adobe Illustrator, Adobe Photoshop; able to develop creative concepts, interact with clients in a consultative mode, handle multiple projects, maintain budgets & meet deadlines. **Grade:** P4; **Range:** \$26,986-35,123 1-13-97 Publications

CHEF (40 HRS) (0140SH) Direct, train & assist kitchen staff in all food production for cafeteria, a la carte restaurant, banquets & students kosher dining rooms according to established menus & guidelines; maintain high standards for presentation, organization & sanitation; direct supervision of Production Manager, Cooks, Pantry & Utility Staff; work in conjunction with the Club Director & Catering Manager to insure member satisfaction. **Qualification:** Culinary school grad or four year college degree with five-ten yrs. progressive cooking experience in a private club, a la carte dining, cafeteria, banquets & Kosher dining; strong management & culinary skills; computer literate; prior experience with computer food management programs; strong experience working within union environment; serve Safe certified; hands-on results oriented individual with the ability to communicate effectively in team environment. **Grade/Range:** Union 1-17-97 Faculty Club

PARKING ATTENDANT (0141SH) Sell parking tickets, collect parking fees, maintain control of entrance & exit of parking facilities; provide customer service. **Qualifications:** H.S. grad or equivalent; one-two yrs. experience as a cashier preferred; math aptitude & good customer relation skills. **Grade/Range:** Union 1-17-97 Transportation Parking

ACCOUNTANT I (121585SH) P2; \$22,351-29,098 1-3-97 Office of the Comptroller

BUYER II (PRODUCTION BUYER) (121494SH) P4; \$26,986-35,123 12-6-96 Publications

COORDINATOR II (121541SH) P2; \$22,351-29,098 12-19-96 PennTrex

GRAD SCHOOL OF EDUCATION

Specialist: Clyde Peterson

COORDINATOR II (121527CP) P2; \$22,351-29,098 12-24-96 International Programs

REG. P-ADMIN. ASS'T III (121564CP) G9/G10; \$10,568-13,195/\$11,557-14,399 1-3-97 Phila. Writing Proj.

LAW SCHOOL

Specialist: Clyde Peterson

INFORMATION SPECIALIST II (0105CP) P5; \$29,664-38,677 1-9-97 Computer Services

INFORMATION SPECIALIST II (0106CP) P5; \$29,664-38,677 1-9-97 Computer Services

ADMIN. ASS'T III (121555CP) G9/G10; \$17,614-21,991/\$19-261-23,999 12-24-96 Law School

AUDIO VISUAL TECH (121607CP) G11; \$21,961-27,866 1-6-97 Media Technology Center

CLERK IV (121554CP) G7; \$14,935-18,592 12-24-96 Law School

MEDICAL SCHOOL

Specialist: Ronald Story/Janet Zinser

BUSINESS MANAGER IV (0129JZ) Oversee financial operations at Department's five practice locations; serve as primary liaison with CPUP Financial Operations Office; provide detailed monthly financial analysis; supervise accounts receivable/payable personnel; prepare monthly financial statements & associated schedules, monthly variance reports & analyses; serve as primary liaison to Office of Venture & Industry; consolidate internal financial databases & establish a direct interface with Department's accounting software; assist in preparation of all operating & capital budgets; monitor cashflow & assist in investment strategies; monitor compliance with University & Medical Center policies & procedures; develop an internal pay or specific charge & collection monitoring system; supervise & coordinate purchasing activity; maintain internal accounts payable tracking system; prepare detailed financial analyses for purchase of major capital equipment; perform inventory analysis & establish & oversee order entry system; monitor & maintain capital & non-capital equipment inventory. **Qualifications:** BA/BS in financial &/or health care management; Master's preferred; five-ten yrs. accounting &/or financial management experience in an academic health care setting; familiarity with accounting software; knowledge of Lotus 1-2-3. **Grade:** P7; **Range:** \$36,050-46,814 1-15-97 Radiation Oncology

COORDINATOR IV (0134JZ) Responsible for positively & effectively interfacing with post-doctoral faculty & staff on issues relating to post-doctoral; develop & maintain a database. **Qualifications:** BA/BS; four-six yrs. experience in service-oriented position; excellent computer, organizational, interpersonal & writing skills. **Grade:** P4; **Range:** \$29,986-35,123 1-15-97 Faculty Affairs

DATABASE TECH II (091139JZ) Design, implement & maintain database systems for clinical research; create & implement data models; design, implement & perform procedures for quality assurance, database auditing & disaster avoidance & recovery; design & implement reports; create subfiles for statistical analysis; perform basic statistical analyses. **Qualifications:** Master's in information systems or related field & two yrs. experience or equivalent or BA/BS in information systems or related field & four yrs. experience or equivalent; experience must include expertise in designing & implementing Oracle database systems to support clinical research; experience conducting basic statistical analyses using SAS &/or SPSS; proficiency with PC & UNIX & Windows NT; demonstrated project management & communication skills. **Grade:** P7; **Range:** \$36,050-46,814 1-13-97 CCEB

EXECUTIVE ASS'T I (0153JZ) Provide administrative support to & manage Chairman's office; supervise office staff; hire, interview & train administrative support staff; manage Chairman's calendar, apprise issues & actions on his agenda; serve as his primary liaison to University, Health System, Medical Center, School & Department offices & external sources; review confidential correspondence & documents & prepare responses for signature & approval; prepare budgets; monitor expenses & handle facility; gather data & perform research for long-range academic planning for department. **Qualifications:** BA/BS or equivalent; five-seven yrs. experience in high level office administrative assistant/executive assistant role; advanced computer software skills; including word processing, spreadsheet, calendar programs & graphic programs; excellent organizational, written & oral communication skills; ability to deal effectively with diverse constituencies; demonstrated ability to exercise initiative & independent judgement. (Application deadline date: 1/22/97) **Grade:** P6; **Range:** \$32,857-42,591 1-16-97 Ophthalmology

PROG. ANALYST IV (0117JZ) Provide advance tech support to health services research team working with

large insurance claims data sets; develop code to ensure data is extracted correctly; design computer programs for complex manipulation, reorganization & linkage of diverse data files; design analytical strategies for data sets & develop & estimate statistical models; participate in meetings of project team; assist in preparing manuscripts for publication. **Qualifications:** Master's degree in statistics, biostat., computer science or equiv.; five yrs. programming exp. in research setting, incl. design & conduct statistical analysis; expertise in database management, multi-variate regression analysis & categorical data analysis; prior exp. with large database strongly preferred; detailed knowledge of SAS & experience in UNIX workstation environment; excellent interpersonal skills; ability to work effectively with colleagues. **Grade:** P8; **Range:** \$39,655-52,015 General Medicine

RESEARCH SPECIALIST IV (091095RS) Perform operation of the Japan Steel works 3015 cyclotron, targets & related equipment; routine maintenance of JSW3015 cyclotron; prepare target irradiation; design & construct remote systems & upgrade; collaborate in the preparation of technical reports & scientific manuscripts; contact vendors & place request for supplies, services & equipment; keep records of operations & maintenance; maintain database. **Grade:** P6; **Range:** \$32,857-42,591 1-17-97 Radiology

STAFF ASS'T III (121573JZ) Manage the central office; ensure the efficient & effective daily operations; manage office records, reports, files & other systems of information; use discretion in handling storing & discussing confidential information; provide support to Associate Director, Research Administration & IHGT Director; assist with calendar management; assist with coordination & preparation of program project grant application; provide supervision to Receptionist, Research Secretary & AA. **Qualifications:** BA/BS or equivalent; four-five yrs progressively responsible experience in office administration; excellent oral & written communication skills & organizational abilities; previous supervisory experience; ability to deal effectively with diverse constituencies & work well under constantly changing deadlines & priorities; word processing exp. & strong typing skills; familiarity with an academic medical environment desirable; previous experience &/or exposure to grant application process highly desirable. **Grade:** P3; **Range:** \$24,617-31,982 12-20-96 IHGT

OFFICE ADMIN. ASS'T III (37.5 HRS) (0131JZ) Monitor/analyze expenditures for supplies, equipment & items for research grants in accordance with grant agency requirements & Department Unrestricted Funds; analyze & approve FinMis user's purchases; prepare journal entries; review C-forms; perform invoicing & accounting for three Service Centers; process tuition payments; serve as liaison for faculty & staff in conducting business with vendors. **Qualifications:** H.S. grad; BA/BS in accounting or equivalent preferred; two yrs. experience at the OAAII level; knowledge of accounting procedures; research grants; FinMis experience a plus. **Grade:** G11; **Range:** \$20,497-26,008 1-15-97 Biochemistry & Biophysics

RESEARCH LAB TECH II (40 HRS) (0151RS) (0152RS) Assist with subject recruitment; administer interviews & score test batteries; ensure data quality & completeness; maintain forms file; collect & enter data into an established database; maintain accurate records; provide information to subjects regarding research protocols. **Qualifications:** H.S. grad with some college courses in related field or equivalent exp.; exposure to social science research methods required; interviewing skills desirable; detail oriented. (On going contingent upon grant funding) **Grade:** G8; **Range:** \$18,481-23,132 1-17-97 Psychiatry

ASS'T TO CHAIRMAN II (121603JZ) P2; \$22,351-29,098 1-6-97 Neuroscience

BUSINESS MANAGER IV (121505JZ) P7; \$36,050-46,814 12-12-96 CCEB

CLINICAL SPEC. (40HRS) (121598RS) P6; \$32,857-42,591 1-6-97 Ctr. for Experimental Therapeutics

COORDINATOR IV/V (091191JZ) P4/P5; \$29,986-35,123/\$29,664-38,677 12-19-96 Cancer Center
FISCAL COORDINATOR I (0107JZ) P1; \$20,291-26,368 1-8-97 CDB
NURSE II (121506RS) P4; \$26,986-35,123 12-6-96 Infectious Disease
PROGRAMMER ANALYST (121591JZ) P6; \$32,857-42,591 1-6-97 Psychiatry
RESEARCH SPECIALIST JR. (121521RS) P1; \$20,291-226,368 12-11-96 Pharmacology
RESEARCH SPECIALIST, JR. (121589RS) P1; \$20,291-26,368 1-3-97 Pathology
RESEARCH SPECIALIST, JR. (0116RS) (0118RS) P1; \$20,291-26,368 1-10-97 Medicine
RESEARCH SPECIALIST I (121582RS) P2; \$22,351-29,098 12-23-96 Endocrinology
RESEARCH SPECIALIST II (121514JZ) P3; \$24,617-31,982 12-12-96 Radiology
RESEARCH SPEC. II (121529RS) P3; \$24,617-31,982 12-12-96 Biochemistry & Biophysics
RESEARCH SPEC. III (121532RS) P4; \$26,986-35,123 12-16-96 Pathology & Lab Medicine
ADMIN. ASS'T II (111478JZ) (40 HRS) G10; \$22,013-27,427 12-3-96 Anesthesia
ADMIN. ASS'T II (40 HRS) (121597JZ) G10; \$22,013-27,427 1-3-97 Endocrinology
LAB ANIMAL TECH (40 HRS) (0111RS) (End date: 12/31/98) G9; \$20,130-25,133 1-9-97 IHGT
OFFICE ADMIN. ASS'T II (40 Hrs) (101376JZ) G10; \$22,013-27,427 1-3-97 Rehabilitation Medicine
OFFICE ADMIN. ASS'T II (0109JZ) G10; \$19,261-23,999 1-8-97 CDB
PROGRAMMER I (40 HRS) (091136JZ) (End date: 9-30-97) G10; \$22,013-27,427 12-23-96 Anesthesia
PSYCH TECH I (37.5 HRS) (121522RS) G10; \$20,637-25,713 12-11-96 Psychiatry
PSYCH TECH I (40 HRS) (081042RS) (On-going contingent on funding). G10; \$22,013-27,427 12-23-96 Psychiatry
RESEARCH LAB TECH II (121557RS) G8; \$16,171-20,240 12-23-96 Physiology
RESEARCH LAB TECH II (40 HRS) (121596RS) G8; \$18,481-23,132 1-6-97 Neuroscience
RESEARCH LAB TECH III (121581RS) G10; \$19,261-23,999 12-24-96 CCEB
REG. P-T (TECH OPHTHALMIC) (24-28 HRS) (121551RS) (121552RS) G11; \$11,262-14,290 12-18-96 Ophthalmology

NURSING

Specialist: Ronald Story

ASSOC. DIRECTOR (0126RS) Coordinate development & implementation of the School's Strategic Plan; identify strategic issues & recommend strategies for resolving them; perform policy analyses, financial analyses & policy studies in support of policy & planning; develop functional specifications of decision support & executive info. systems; create & organize information critical to planning & executive decision making; identify, create & maintain longitudinal data base to support planning & analysis & historical data from legacy info. systems; serve on School & Univ. planning committees; monitor compliance with strategic plan & policies; analyze & maintain longitudinal data from course evaluation to support academic & resource planning. **Qualifications:** MS/PhD in Higher Ed., Ed. Research or related field; two or more yrs. exp. in higher ed. admin., planning & working with large data sets & knowledge of data warehouses; familiarity with the university environment pref.; ability to understand (& track) information flow within School (& University); strong background in statistics & expertise using computer based statistical tools like SAS & SPSS; demonstrated written & verbal communications skills with demonstrated ability to work effectively with faculty & academic & administrative leaders; strong organizational skills; ability to access & use complex Oracle databases; familiarity with data query tools (Business Object) & understand SQL query language; programming skills using high level languages pref. (SQL+, PLSQL, MS Access); knowledge of complex report generation; able to elicit precise information from request & to relate that information to university data model (or some component portion of it); expertise using the WWW (familiarity with research methods & data access methods); exp. in a health care environ-

ment most notably familiarity with nursing or medical education or a clinical setting & related terminology. **Grade:** P7; **Range:** \$36,050-46,814 1-14-97 Nursing
ASSOC. DIRECTOR V/VII (101251RS) P7/P8; \$36,050-46,814/\$39,655-52,015 11-6-96 Nursing
ADMIN. ASS'T II (40 HRS) (111393RS) G10; \$22,013-27,427 12-4-96 Nursing
ADMIN. ASS'T III (40 HRS) (111420RS) (End date: 8/31/99) G11; \$23,425-29,723 11-15-96 Nursing
SECRETARY IV (40 HRS) (08910RS) G9; \$20,130-27,425 8-13-96 Nursing
PART-TIME (ADMIN. ASS'T I) (20 HRS) (07826RS) G9; \$9,678-12,083 7-30-96 Nursing
PART-TIME (SECRETARY IV) (21 HRS) (0140RS) G9; \$9,678-12,083 1-18-96 Nursing
PART-TIME (SECRETARY IV) (20 HRS) (101233RS) (Some weekend work may be required) (End date: 6/30/00) G9; \$9,678-12,083 10-8-96 Nursing

PRESIDENT

Specialist: Sue Hess/Janet Zinser

ASSOC. DIRECTOR III (0142JZ) Provide internal & external support to the management of Wharton External Affairs' fundraising program with particular emphasis on the management of School's Advisory & Alumni Boards & fundraising efforts involving the Dean; assist in achievement of fundraising goals through prospect management coordination, communication with Wharton & University Development staff, management of correspondence to board members & Access database tracking of members & coordination of special events. **Qualifications:** BA/BS; five yrs. experience in related field fundraising, special events; excellent written & interpersonal skills; experience with Board coordination &/or management a plus; ability to work independently within a team approach in a goal oriented environment; experience with computer based information database systems, preferably Access; ability/willingness to travel; valid driver's license. **Grade:** P5; **Range:** \$29,664-38,677 1-15-97 Development & Alumni Relations
FINANCIAL ADMINISTRATOR I (0150SH) Manage budget administration process for Office of the Secretary; prepare & recommend budgets; give price guidelines & recommendations; handle all financial transactions; make projections & prepare reports; administer reconciliations & reallocations; monitor payroll functions; recruit, hire & supervise receptionist & student workers; assess office needs & make recommendation for improvements; procurement; contract negotiation; facilitate office operations; provide expert computer support; manage complex projects; assist in management of special events at Trustee meetings, Commencement & faculty ceremonies. **Qualifications:** BA/BS or equiv.; three-four yrs. accounting/admin. exp., pref. at University; excellent financial analytic skills; excellent oral & written communication skills; excellent organizational & planning skills; good analytical & problem solving skills; great attention to detail & sensitivity to confidential information; excellent computer skills; knowledge of Excel & Microsoft Word; knowledge of FinMis highly desirable. **Grade:** P3; **Range:** \$24,617-31,982 1-17-97 Office of the Secretary
ADMIN. ASS'T III (37.5 HRS) (0139SH) Prepare & disseminate memoranda, correspondence special reports & summaries to the Trustees & Deans from the Director of University Communications, according to established guidelines for style; review incoming correspondence to assess priorities for action; maintain calendar & schedule travel arrangements; screen incoming calls & maintain telephone logs; monitor office supplies; arrange & staff weekly national Story Conference meetings & monthly meetings of the Council on Institutional Advancement. **Qualifications:** H.S. grad; five-six yrs. AAI experience or equivalent excellent interpersonal communication skills, especially telephone presence; strong organizational skills; sound judgment; working knowledge of Microsoft Word; willingness to work with confidential material with discretion. (Schedule may required evening hours & weekends as needed to complete assignment) **Grade:** G11; **Range:** \$20,297-26,008 1-17-96 University Press
ALUMNI OFFICER I (0115JZ) P3; \$24,617-31,982 1-9-97 Development & Alumni Relations
ANNUAL GIVING OFFICER III (121563JZ) P6; \$32,857-42,591 12-19-96 Dev. & Alumni Relations

ASS'T MANAGER II (121495SH) P2; \$22,351-29,098 12-3-96 University Archives
ASS'T MGR. WXPEN-MARKETING/DEVELOPMENT (121509SH) P7; \$36,050-46,814 12-19-96 WXPEN
DEV. OFFICER II (121512JZ) (App. deadline: 12/16/96) P10; \$48,822-64,066 12-10-96 Dev. & Alumni Rels.
DIRECTOR IV/V (121574JZ) P7/P8; \$36,050-46,814/\$39,655-52,015 12-23-96 Dev. & Alumni Relations
DIRECTOR, PLANNED GIVING (0114JZ) P10; \$48,822-64,099 1-9-97 Dev. & Alumni Relations
EXEC. DIRECTOR, DEVELOPMENT (121559JZ) P11; \$56,135-70,246 12-23-96 Med Ctr. Dev.
EXEC. DIRECTOR, DEVELOPMENT (121560JZ) P11; \$56,135-70,246 12-23-96 Med Ctr. Dev.
MANAGER, ALUMNI RECORDS (121545JZ) P6; \$32,857-42,591 1-8-97 Dev. & Alumni Relations
ADMIN. ASS'T I (121546SH) G9; \$17,614-21,991 12-18-96 Office of the Secretary
ADMIN. ASS'T I (121546SH) G9; \$17,614-21,991 12-18-96 Office of the Secretary
ADMIN. ASS'T II (40 HRS) (121561JZ) (Flexible & available to work occasional evenings) G10; \$22,013-27,427 12-19-96 Development & Alumni Relations
ADMIN. ASS'T II (121562JZ) G10; \$19,261-23,999 12-19-96 Development & Alumni Relations
ADMIN. ASS'T III (40 HRS) (121535SH) G11; \$23,425-29,723 1-3-97 Office of the President

PROVOST

Specialist: Clyde Peterson

ASS'T JUDICIAL INQUIRY OFFICER (0143CP) Investigate complaints pursuant to the Code of Student Conduct, Code of academic Integrity & other rules & regulations of the University; make recommendations as to whether charges should be brought against students, draft charges as directed; assist in resolving cases by agreement, present evidence to Director & Hearing Panels as necessary; meet with students accused of misconduct & attempt to help them take responsibility for their actions & achieve mutually satisfactory disciplinary outcomes; counsel students regarding disciplinary procedures & make referrals as needed; prepare & maintain reports & statistics & submit reports to Director. **Qualifications:** BA/BS required; grad degree in counseling student services or law pref.; three-five yrs. professional work exp. in related field (e.g. Higher Education); sensitivity to & understanding of the concern & developmental needs of a diverse population of college & grad students; demonstrated ability to mediate disputes & resolve conflicts; very strong communications, interpersonal, analytical & organizational skill required; demonstrated maturity, objectivity. (Schedule may require some evenings & weekend hours) **Grade:** P5; **Range:** \$29,664-38,677 1-17-97 Office Student Conduct
SYSTEM ANALYST, SR. (0133CP) Responsible for technical & functional analysis of information processing & management systems, completing feasibility studies, designing systems & identify interrelationships among systems; develop system design speci-

Classifieds

FOR RENT

4700 Springfield Avenue: 2 bedrooms, second floor, modern kitchen and bathroom, hardwood floors, large backyard. \$600 includes all utilities. 724-7102.

Chestnut Hill: Charming, recently renovated near public transportation, walk to shopping area, great light, quiet, French doors in kitchen lead to deck and yard. 1 bedroom and large studio room or 2nd bedroom. Furnished, available mid-March-Sept. 1. \$875/month and utilities. 242-6046.

VACATION

Pocono Chalet: 3BR/1B, near Jack Frost/BB; Firewood incl. \$375/weekend, 215-898-9928

MEMBERSHIP

Patsy Cline Fan Club: \$10/year Call Bob Arnosky 898-5589

fication & cost benefit estimates; ensure adherence to departmental technical & quality assurance standards; maintain thorough knowledge of system development tools; determine functional requirements for client office; responsibilities may include organization, planning & management of projects. **Qualifications:** BA/BS with a minimum four years progressively responsible experience within a large administrative computing environment, including a minimum of three yrs. in system design & analysis; detailed knowledge of database design concepts & development methodologies; expertise in UNIX & relational database technology required; Oracle preferred, knowledge of COBOL, C, & ADABAS/NATURAL a plus; excellent written, verbal & interpersonal skills; demonstrated planning & organizational; working knowledge of LAN, project management software & desktop presentation tools helpful. **Grade:** P8; **Range:** \$39,655-52,015 1-17-97 ISC/App. Development

ADMIN. ASS'T I (0138CP) Secretarial, clerical & receptionist duties; provide PC computer support & basic programming support; assist in testing of custom programming projects; enter data into office computer systems. **Qualifications:** H.S. grad with two-three yrs. secretarial/admin. support experience; typing 45-50 wpm.; working knowledge of Lotus 1-2-3, DOS & Windows; familiar with office machinery & excellent organizational & interpersonal skills. **Grade:** G9; **Range:** \$17,614-21,991 1-17-97 ULAR

ELECTRONIC TECH II/III (111434CP) **ETII:** Install simple PennNet connections, incl. testing, documents & report problems encountered; assist Mid-level & Senior installation of complex PennNet components & receive training on job from senior staff on installation & operation of complex components of PennNet. **ETIII:** Test & repair all types of PennNet copper fiber optic wiring; find & correct faults in all types of interconnections between wiring & installed network electronics; identify & isolate problems down to the individual field-replaceable components, using sophisticated network test equipment & specific troubleshooting procedures; document diagnostic & corrective actions performed; **Qualifications:** H.S. grad; grad from electronics tech school with focus on computer electronics or data networking or equiv.; basic understanding of trouble-shooting process; knowledge of Ethernet, TCP/IP, modems & data networking equipment. **ETIII:** same as above, three yrs. exp. installing or maintaining data networking components or related exp.; detailed knowledge of standard wiring components & techniques, Ethernet & data-networking electronics; basic knowledge of TCP/IP; expert in trouble-shooting complex systems, such as computer networks or equivalent; ability to use & configure personal computers & use UNIX systems to perform routine tasks. **Grade:** G10/G11; **Range:** \$19,261-23,999/\$20,497-26,008 1-17-97 ISC-Networking

SECRETARY IV (0144CP) Answer phones, make referrals, schedule appointments; type, compose & proofread correspondence & memoranda; draft reports & other complex materials; responsible for receiving & preparing complex student files; perform data entry & basic research functions (SRS) to ensure files are accurate & kept up-to-date; produce weekly & monthly computerized reports; provide general computer maintenance; assist in coordinating disciplinary hearings; responsible for reading all University publications to keep office abreast of current events; open & screen mail. **Qualifications:** Completion of H.S. with post-related business training; at least two yrs. of secretarial experience; knowledge of University preferred; proficient in Macintosh computer operating system & applications, including Microsoft Word, Excel & FileMaker Pro; experience using database software, also familiar with e-mail; ability to take initiative, work independently, demonstrated integrity & professionalism; good communication, interpersonal & organizational skills; essential must be sensitive to student needs. **Grade:** G9; **Range:** \$17,614-21,991 1-17-97 Office of Student Conduct

LTD. SERVICE (THEATRE TECH) (0218CP) Responsible for assisting in various tech and support functions related to the production of theatrical presentations in the Annenberg Center; operate theatrical equipment; assist student and professional groups in preparing their presentations; routine maintenance of the theatrical and associated shop equipment; oversee rehearsals. **Qualifications:** BA/BS or equiv., pref. in theatre or tech theatre; experience working with tech

aspects of theatre required; experience with industrial shop & technical equipment required. **Grade:** G8; **Range:** \$8,885-11,121 1-15-97 Annenberg Center

ASSOC. DIR. RADIATION SAFETY (121503CP) P10; \$48,822-64,066 12-10-96 Radiation Safety

DIRECTOR, MARKETING (091065CP) P7; \$36,050-46,814 12-10-96 University Press

ADMIN. ASS'T III (0113CP) G11; \$20,497-26,000 1-9-97 Undergrad Admissions

CLERK, SENIOR LIBRARY (121593CP) (May need to work some evenings and weekends) Union 1-3-97 University Library

GARDENING AIDE (40 HRS) (121542CP) (End date: 6/30/97) G5; \$14,714-18,069 12-17-96 Morris Arboretum

REGULAR P-T (ADMIN. ASS'T I) (111492CP) (End date: 12/31/97) G9; \$9,678-12,083 12-10-96 University Libraries

REGULAR PART-TIME (CLERK V) (121538CP) G8; \$8,885-11,121 12-16-96 University Libraries

VETERINARY SCHOOL

Specialist: Ronald Story

ASS'T DIR., FACILITIES/PLANNING & CONSTRUCTION (111442RS) Coordinate definition of project scope; assist in selection of design professional; prepare project budgets & manage expenditures; supervise project design development schedule & monitor progress; prepare bidding documents & select constructors; monitor progress of construction; review request for payment of construction services; handle change orders & close-out of projects; keep user group informed as to project process at all phases. **Qualifications:** BA/BS in engineering or equiv. pref.; three yrs. related construction mgmt. exp.; excellent planning, organizational & communication skills; computer accounting & purchasing skills req. (Position in Kennett Square, PA; no public transportation) **Grade:** P5; **Range:** \$29,664-38,677 1-17-97 NBC/Admin. Svcs.

DAIRY MANAGER (0124RS) Responsible for management of Dairy facility; supervise two full-time employees; work with Agriculture Manager & Dairy Advisory committee, faculty & research personnel in planning & carrying out research & teaching programs in conjunction with New Bolton Ctr.; identify needs & obtain supplies; perform fill-in duties; assist Agriculture Manager with budget management, long term facility planning & forecasting future need. **Qualifications:** BA/BS or advanced degree in Animal Science or closely related field; five yrs. exp. in managing large dairy herd in free stall/milking parlor environment; three yrs. exp. supervising dairy employees; strong interpersonal/communicative skills,

good organizational skills; knowledge & skill in operation of PC based herd mgmt. software. (Position in Kennett Square, PA; no public transportation) **Grade:** P3; **Range:** \$24,617-31,982 1-5-97 New Bolton Ctr.

ASS'T SUPERVISORY CUSTODIAL (NBC) (40 HRS) (111490RS) (Position in Kennett, Square, PA; no public transportation) G9; \$20,130-25,133 12-6-96 Large Animal Hospital

CLINICAL LAB TECH (111489RS) (Schedule may require working every other weekend/two days off during the alternate week 9:30 a.m.-5:30 p.m.) G10; \$19,261-23,999 12-6-96 VHUP-CLM

CUSTODIAL WORKER (40 HRS) (121528RS) (On-call duty & occasional weekends) (Position in Kennett Square, PA; no public transportation available) G5; \$14,714-18,069 12-11-96 New Bolton Ctr.

LAB ANIMAL TECH (40 HRS) (111488RS) (Position in Kennett, Square, PA-there is no public transportation) G9; \$20,130-25,133 12-6-96 New Bolton Center

NURSE, VET ASS'T (40 HRS) (111491RS) (Position in Kennett, Square, PA; no public transportation) G5; \$14,714-18,069 12-6-96 Large Animal Hospital

SECRETARY III (40 HRS) (0101RS) (Position in Kennett Square, PA; no public transportation available) G8; \$18,481-23,132 1-9-97 Large Animal Hospital-NBC

VICE PROVOST/UNIVERSITY LIFE

Specialist: Clyde Peterson

MANAGER END-USER SUPPORT SERVICES (121594CP) P8; \$39,655-52,015 1-9-97 OSIS

SENIOR PLACEMENT COUNSELOR (0102CP) P5; \$29,664-38,677 1-6-97 Career Planning & Placement

LTD. SERVICE (OFFICE ADMINISTRATIVE ASSISTANT II) (121517CP) G10; \$10,583-13,186 12-17-96 Office of Student Life Activities & Facilities

WHARTON SCHOOL

Specialist: Janet Zinser

COORDINATOR III (121578JZ) P3; \$24,617-31,982 1-10-97 Wharton External Affairs

COORDINATOR V (121579JZ) P5; \$29,664-38,677 12-24-96 Wharton External Affairs

DIRECTOR VI (121602JZ) P9; \$43,569-57,217 1-8-97 Management

INFORMATION SYSTEMS SPECIALIST II (101212JZ) P5; \$29,664-38,677 12-11-96 WCIT

INFORMATION SPECIALIST II (121576JZ) P5; \$29,664-38,677 12-24-96 WCIT

MANAGING DIRECTOR (101208JZ) (On-going contingent on grant funding) P11; \$56,135-70,246 12-18-96 Risk Management & Decision Processes Center

Laser Safety Programs: Faculty, Staff and Students

The Office of Environmental Health & Safety is conducting Laser Safety Training on February 26, 1997, in room 303 Moore School from 10-11 a.m. The seminar is for all faculty, staff and students who use lasers in their research and have not previously attended the University's laser safety training program. Topics to be discussed include user responsibilities, medical surveillance, and recommended work practices.

Laser safety training is one element of the University's laser safety program. The program also includes a laser safety manual, a laser registry, signage, medical surveillance, and laboratory audits. All laser users should have a copy of the University Laser Safety Manual. To get a copy of the manual, contact OEHS at 898-4453 or consult the OEHS web site at <http://www.oehs.upenn.edu>.

Principal investigators must complete a Laser Registry form listing the location and type of laser(s) they are using along with the names of all users.

A copy of the form is attached to the Laser Safety Manual. Door signs for areas in which lasers are used are required and are issued upon the user's request to OEHS.

A medical surveillance program has been established for faculty and staff that use Class 3B and Class 4 lasers. Ocular examinations are conducted by the Ophthalmology Department at HUP in order to establish a baseline for each user's eyes. To be eligible for the program, Principal Investigators must complete the Laser Registry form and return it to OEHS.

Those who would like to sign up for the training or have any questions about the program may contact Laura Peller at 898-4453 or e-mail laura@oehs.upenn.edu.



Lectures Leading Up to the Dance

In anticipation of the Annenberg Center appearance of the Whirling Dervishes (left) on February 3, Penn's Turkish Student Association is sponsoring two free lectures on January 30.

The Ecology of the Masnawi: Nature in the Poetics and Metaphysics of Mawlana; Linda Clark, Asian and Middle Eastern Studies; noon; West Lounge (Room 421), Williams Hall.

Structure and Development of the Whirling Dervish Ceremony; Walter Feldman, Asian and Middle Eastern Studies; 4:30 p.m.; Bowl Room, Houston Hall.

Onstage at Annenberg Center: The Dance of Two Cultures and a Duel in Black and White

While the Broadway-bound *Forever Tango* is winning raves at the Annenberg Center's Zellerbach Theatre (left), the Center's companion showcase, the Harold Prince Theatre, is getting set for the world premiere of *Bare Knuckle* (lower left). And soon will come the Whirling Dervishes of Turkey (above).

Tango, created by the cellist Luis Bravo, is here for a limited run (through February 2) after breaking San Francisco touring musical box office records with a 92-week run.

Tracing the tango's colorful history since its beginnings in turn-of-the-century Buenos Aires are a cast of 25 performers with an 11-piece string and piano orchestra anchored by the bandoneón, an accordion-like instrument. Bravo calls the tango "more than just a dance—it is also a music, a culture, a way of living." For more information and tickets call the box office at 898-6791 or 336-2000 or visit the website: www.showgate.com/tango for programs, profiles, reviews, photos and more.

Bare Knuckle, directed by Eugene Nesmith, runs January 23 through February 9 at the Hal Prince. The play by Art Becker is

set in a Texas jail in 1901 where young Jack Johnson, who became the first African-American Heavyweight Champion, battled a seasoned white boxer in a fight for dignity and power.

The production is part of the Philadelphia Festival Theatre for New Plays.

There will be free beer-tasting before the January 28 performance and *Talk Backs* after the preview performances on January 23-26. For information call the box office: 898-6791.

Dervishes: After *Tango* leaves Zellerbach, twelve Whirling Dervishes of Turkey arrive for a one-night performance sponsored by the Threshold Society of Brattleboro, Vermont, on February 3 (preceded by the two Penn student-hosted lectures noted above on this page). With them is the Mevlevi Ensemble, conducted by Dogan Ergin with Kani Karaca as vocalist and reciter of the Koran. The 700-year-old tradition of the Whirling Dervishes combines religious meditation with intricate choreography and scoring. The performance is at 8 p.m. Tickets (\$24, \$16/students) are available at the Annenberg box office: 898-6791.



Recreational Opportunities Hutchinson

Hutchinson Gym

Monday, Wednesday, Friday:

7 a.m.-11 p.m.

Tuesday, Thursday:

9 a.m.-11 p.m.

Saturday, Sunday: noon-7 p.m.

Hutchinson Pool

Monday, Wednesday, Friday:

7 a.m.-8:30 a.m.; noon-7 p.m.

Tuesday, Thursday: noon-7 p.m.

Saturday, Sunday: noon-7 p.m.

Gimbel

Gimbel Gym

Monday, Wednesday, Friday: 7 a.m.-11 p.m.

Tuesday, Thursday: 9 a.m.-11 p.m.

Saturday, Sunday: noon-7 p.m.

Sherr Pool

Monday, Wednesday, Friday: 7 a.m.-8:30 a.m.;

11 a.m.-2:50 p.m.; 5-10:30 p.m.

Tuesday, Thursday: 11 a.m.-2:50 p.m.;

5-10:30 p.m.

Saturday: noon-7 p.m.

Sunday: noon-4:50 p.m.



Retirement Planning Sessions: Today Through January 27

Penn Human Resources/Benefits is presenting a series of retirement planning sessions open to all University employees. No registration is required for these sessions.

Vanguard/Calvert Sessions:

Jan. 21 *The Choice is Yours*; for new faculty and staff and those who are eligible but not participating in the tax-deferred annuity plan; noon-1:15 p.m.; Club Room, Faculty Club. *Repeated 1:30-2:30 p.m.*

Jan. 22 *The Triumph of Indexing*; for new faculty and staff currently in the plan; noon-1:15 p.m.; Club Room, Faculty Club.

Jan. 22 *International Investing Strategies—Understanding Investments and Diversification*; for early- to mid-career faculty and staff; 1:30-2:30 p.m.; Club Room, Faculty Club.

TIAA-CREF sessions:

Jan. 24 *Just Starting Out—A Primer for the New Participant*; for new faculty and staff currently in the plan; noon-1:15 p.m.; Rooms 1 & 2, Faculty Club.

Jan. 24 *Understanding Investments and Diversification*; for early- to mid-career faculty and staff; 1:30-2:30 p.m.; Rooms 1 & 2, Faculty Club. *Repeated Monday, January 27, 1:30-2:30 p.m., Smith-Penniman Room, Houston Hall.*

Jan. 27 *Looking Ahead to Retirement—Customizing Retirement Income*; for faculty and staff age 50 and over who are considering retirement; noon-1:15 p.m.; Smith-Penniman Room, Houston Hall.

New Bolton in February: Both The Vanguard Group and TIAA-CREF will also make presentations at New Bolton Center on Wednesday, February 19.



Update

JANUARY AT PENN

FITNESS/LEARNING

English Language Programs Evening Course Registration; classes meet 6-8:30 p.m.; *TOEFL Prep*, Mondays and Wednesdays, Jan. 27-Feb. 36, \$290; *Speaking and Listening*, Tuesdays and Thursdays, Jan. 28-Feb. 27, \$290; *Oral Presentation*, Thursdays, Jan. 30-Feb. 27, \$145; \$10 fee for late registrants; info: 898-8681.

28 Graduate School: Getting In and Staying In: includes graduate student panelists from history & sociology of science, American civilization, and biomedical graduate studies; *What to Find Out Before You Accept Your Admissions Offer?*, Mary Heiberger, associate director of CPPS and co-author of the *Academic Job Search Handbook*; 4-5:30 p.m., Benjamin Franklin Room, Houston Hall (Ben Franklin Scholars/General Honors, Career Planning & Placement Service, The College, Office of International Programs).

WEPIC Volunteers Needed for Turner Project

The John P. Turner Middle School, located at 59th & Baltimore Avenue, is seeking Penn staff, faculty, students, and alumni as volunteers. For more than 10 years volunteers have helped to teach Arts & Crafts, Math, Reading/Writing, Healthy Cooking, Computers, Exercise, Chess, and other types of classes for adults and children. These classes are freely offered to the community.

Volunteers are needed to teach or assist in the classroom. You can volunteer every Saturday, every other Saturday, or one Saturday per month. The time commitment is three hours per week from 8:45 a.m.—11:45 a.m. Spring classes begin February 1. The spring schedule ends March 22. Take time to care!

This is a great way to get involved and the program director is open to new ideas for classes. For instance we need instructors who are willing to teach GED. Interested? Contact Penn VIPs at 898-2020.

—Bonnie Ragsdale, Associate Director for Staff, Faculty, & Alumni Volunteer Service, Center for Community Partnerships

The University of Pennsylvania Police Department Community Crime Report

About the Crime Report: Below are all Crimes Against Persons and Crimes Against Society from the campus report for **January 5 through 12, 1997**. Also reported were **Crimes Against Property**, including **15 thefts (including 1 burglary, 4 thefts of auto, 2 thefts from auto); 2 incidents of criminal mischief and vandalism; 1 of forgery & fraud, 1 of trespassing & loitering**. Full crime reports are in this issue of *Almanac* on the Web (www.upenn.edu/almanac/v43/n18/crimes.html).—Ed.

This summary is prepared by the Division of Public Safety and includes all criminal incidents reported and made known to the University Police Department between the dates of **January 5 and 12, 1997**. The University Police actively patrol from Market Street to Baltimore Avenue and from the Schuylkill River to 43rd Street in conjunction with the Philadelphia Police. In this effort to provide you with a thorough and accurate report on public safety concerns, we hope that your increased awareness will lessen the opportunity for crime. For any concerns or suggestions regarding this report, please call the Division of Public Safety at 898-4482.

Crimes Against Persons

34th to 38th/Market to Civic Center: Robberies (& attempts)—1
01/07/97 10:48 AM 203 S. 38th St. Unknown person w/simulated weapon took CDs
38th to 41st/Market to Baltimore: Simple assaults—1, Threats & harassment—2
01/10/97 2:46 PM 3925 Walnut St. Manager of store harassed by vendor
01/11/97 2:07 PM 4051 Locust Complainant received unwanted calls
01/12/97 2:23 AM 100 Blk. 39th Male assaulted/refused prosecution/taken to HUP
41st to 43rd/Market to Baltimore: Aggravated assaults—1
01/07/97 7:49 AM Spruce/St. Mark's Complainant assaulted/taken to HUP

Crimes Against Society

34th to 38th/Market to Civic Center: Alcohol & drug offenses—2
01/08/97 9:27 PM 3600 Blk. Chestnut 3 males stopped with narcotics/arrest
01/11/97 6:30 PM 3400 Blk. Walnut Suspect arrested for drinking while driving
38th to 41st/Market to Baltimore: Disorderly conduct—1
01/11/97 10:59 PM 4006 Spruce St. Man with pellet gun/arrest

ON STAGE

23 Mystery Repeats Itself: the Mask & Wig Club's 109th Annual Production, a song-and-dance filled musical comedy; Thursdays-Saturdays through April 5 at the Mask & Wig Clubhouse and the Annenberg Center. Tickets: 898-6791.

TALKS

22 Fissile-Material Security in Russia; Frank von Hippel, Princeton; 4 p.m.; DRL (Physics). *Introduction to Silicon-Based Technologies;* Paola Fortina, CHOP; 4 p.m.; Grossman Auditorium, Wistar Institute (Wistar).

A Dialogue Between Nature and Allegory: The Four Seasons in History, Art and American Culture; Michael Kammen, Cornell; 5 p.m.; 6th Floor, Van Pelt-Dietrich Library (History).

Who Decides?: Clinical Decision Making in the Managed Care Marketplace; panel discussion; 6-8 p.m.; Dunlop Auditorium, Stemmler Hall (Leonard Davis Institute).

23 Methionine Synthase or its Methycobalmin Cofactor: Who is Really in Control; Joseph Jarrett, Michigan; noon; Johnson Foundation Li-

brary, Richards Bldg. (Biochem. & Biophysics).

Managing Explosive Growth: The Bangkok Experience; Gary Hack, dean, Grad School of Fine Arts; 7-9 p.m.; Room 306, Furness Building (Urban Studies).

24 The DMZ and Nature Conservation in the Korean Peninsula: Transboundary Reserves; Ke Chung Kim, Penn State; 12:15-1:45 p.m.; Room 109, Steinberg Hall-Dietrich Hall (Institute for Environmental Studies).

27 Neurotransmitter Transport: Lessons from Flies, Mice and Men; Randy Blakely, Vanderbilt; noon; Pharmacology Seminar Room, John Morgan Building (Pharmacology).

Novel Instabilities in Thin Liquid Film—the Beauty and the Beast; Sandra Troian, Princeton; 3:30 p.m.; Rm. 337, Towne Bldg. (Chemical Engineering).

Theory Elaboration, Historical Ethnography and Organizational Analysis: The Challenger Case; Diane Vaughn, Boston College; 4 p.m.; Suite 500, 3440 Market St. (History and Sociology of Science).

28 Taste Transduction: Signalling in the Taste Bud; Steve Roper, University of Miami; 11:30 a.m.; Monell Chemical Senses Center (Monell).

Protein Folding in the Cell: The Role of molecular Chaperones; Ulrich Hartl, Sloan-Kettering Institute; noon; Austrian Aud., Clinical Research Bldg. (Biochem. & Biophysics).

Calcium Waves, Calcium Pumps and Mitochondria; James Lechleiter, UVA Health Sciences Center; 4 p.m.; Physiology Conference Room, Richards Bldg. (Physiology).

Update deadline: The deadline for this weekly column is the Monday of the week prior to publication (e.g., January 27 for the February 4 issue).



Almanac

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Notes Toward a Culture of Writing *by Alan Filreis*

No one who is an effective writing teacher lectures about writing more than occasionally. Our main method of gathering students in rooms for discrete events of instruction does not succeed in the teaching of writing. The writing seminar, which has worked spectacularly well at Penn, is obviously the right setting—typified not just by small size but also by a format encouraging frequent critical response to students' new work. This pedagogy is by its nature open to extra-curricular—a better term is co-curricular—advising and support. Learning to write is finally a matter of doing it, and students in writing seminars do far more writing out of class than in. A worthy university writing program meets the obligation to arrange for the teaching of writing beyond the courses—to locate, in a sense, where and when students do their work and to provide, wherever and whenever possible, the option of more instruction. Given the scope of a research university, it is not feasible to have faculty teach more than a few writing seminars. Obviously we need doctoral students from English and across the disciplines to lead the seminars. But then we need a comprehensive system of pedagogical training in which faculty serve as the mentors of apprentices. And we need to take advantage of the experience and skills offered by the best undergraduate peer advisors.

The New Writing Program

The newly reorganized Writing Program consists of the Writing Across the University program, the Freshman English program (being renamed "the English Writing Program"), the Writing Center, and Writing Advisors. Guided by a dedicated faculty Writing Committee, the Writing Program creates standards and helps design seminars that undergraduates use to fulfill their writing requirements. Through its ambitious co-curricular projects, such as the Writing Center and Writing Advising, it sustains the faculties' judgment that students should learn early to write lucid, focused, intellectually efficient prose. Among the goals of reorganization are:

- an extension of the model of apprenticeship seminars for new teachers, led by senior faculty—a system already flourishing in the English and philosophy departments;
- an enlargement of the successful Writing Advisors program to cover all 11 of Penn's undergraduate residential communities;
- the testing of an Electronic Writing Advising service that would be available to all Penn undergraduates twenty-four hours per day, seven days per week;
- the enactment of an across-the-university writing requirement;
- the creation of what faculty on the School of Arts & Sciences Writing Committee call "a culture of writing" at Penn.

Teacher Training in Apprenticeship Seminars

Through the Chimicles Writing Fellowship Program, the Writing Program funds "Writing about" seminars. Some 36 writing seminars are offered annually, beyond the many English writing seminars, in departments including Art History, History & Sociology of Science, Folklore, Music, History, Political Science, Psychology, and Sociology. Since the Chimicles Program was endowed, 21 new courses have been offered, 9 of them designed and taught by standing faculty in their departments. (Notably successful writing seminars have been taught by Linda Chance on perceptions of East Asia; Jim O'Donnell on "What Is a Classic?"; Ann Matter on women and religion; Tom Ricketts on moral issues.) But by and large the "Writing about" seminars are taught by advanced doctoral students on teaching fellowships—funded, competitively, by Chimicles awards. Those instructors not in English or philosophy are trained by the Writing Across the University program "outside" the home department. In English and philosophy, graduate

instructors leading these seminars are themselves taught by senior faculty who direct a semester-long workshop at the graduate level designed to teach the teaching of writing as part of instruction in the discipline. The faculty, in turn, teach a section of the freshman seminar; mentor and apprentices share a more or less common reading list, working both independently and together on the teaching of freshmen. The apprenticeship teacher-training model has the merit of localizing discussion about pedagogy in the departments, and creating a sense of faculty ownership of the course itself and of the very idea that teaching writing is central to the discipline. Proposals to run new apprenticeship seminars in Classical Studies and Folklore have been approved for September 1997. Several other departments are expressing interest for 1998.

Writing Advisors

Founded by Peshe Kuriloff, Director of Writing Across the University, this program meticulously trains peer (undergraduate) writing advisors who are available for certain kinds of assistance evenings and weekends. (They do not, for instance, "edit," "proofread," or simply rewrite papers, but rather engage student writers in the critical process of asking hard questions about problems of logic, argument, and rhetoric in a piece of unfinished writing.) The significant feature of Writing Advising is that it is an academic service—educationally sound and cost effective—offered through the undergraduate residences, during evening and weekend hours when academic offices are closed. Penn's new Writers House, open until midnight, is serving as a hub facility. We hope to expand the program so that every residential community has in-house writing advising—for the late-night academic "house calls" that typify the informal after-hours learning already well established by Penn's faculty-led College Houses and First-Year Houses.

Electronic Writing Advising

Even Writing Advisors, however, cannot keep the hours on site that can be kept by those available for the same advice electronically. For better or worse, undergraduates at Penn tend to reach the point of needing an answer to a specific question literally in the middle of the night. The Writing Program is already piloting an Electronic Writing Advising project with several hundred students enrolled in writing seminars. Students post questions to writeme@english and receive at least an initial reply within two hours—often within minutes. (Replies are archived for review by Writing Program staff to assure quality.)

Universal Writing Requirement

The 1991 vote for the establishment of a College Writing Requirement by the SAS faculty was joined by similar approvals by the Nursing and Wharton faculties. The Engineering faculty will soon be considering a proposal from its Undergraduate Affairs Committee to augment the SEAS "Social Sciences and Humanities" distributional requirement by including within it a writing requirement similar to that of the College. A Penn Writing Requirement means the opportunity to enable something of a common first-year experience for all undergraduates and gives further incentive for inter-school collaboration.

A Culture of Writing

Such a "culture" is characterized by an active concern across the institution for clear thinking realized through the written word. A successful university writing program calls attention to this ideal in all educational settings at Penn, not only in classrooms where the writing requirement is being fulfilled, but in every office, lab, and residence.

The Talk About Teaching series is a joint project of the College of Arts and Sciences and the Lindback Society.

Dr. Filreis, Professor of English, is also Faculty Director of the SAS Writing Program. For information about the Writing Program, see <http://www.english.upenn.edu/Writing>, or write to writing@english.upenn.edu.

Agenda for Excellence: The Strategic Plans of the Schools of the University of Pennsylvania

To the University Community

Today we are very pleased to publish the latest chapter of the *Agenda for Excellence* — an inspiring set of statements by and about the twelve exceptional schools of the University of Pennsylvania. Each of the statements succinctly yet eloquently summarizes the current position, opportunities, challenges and strategic plans of the school it describes. Each also speaks to the variety of ways in which every school at Penn is linked to others. Written by the deans and the faculties of the schools, the statements together present a wonderfully broad, rich and invigorating picture of the University as a whole.

In combination with the original nine goals of the *Agenda for Excellence* (*Almanac*, November 21, 1995) and the *Six University Academic Priorities* (*Almanac*, September 24, 1996), the twelve school strategic plans that are summarized here round out a full strategic vision for the University over the next five years and into the 21st Century. It is a compelling vision: the future is full of promise for Penn and our schools. If we are steadfast in our pursuit of excellence, if we make the right choices, if we are imaginative, entrepreneurial and perseverant, then Penn will certainly advance as one of the world's premier teaching and research universities.

No university has a finer group of academic deans than Penn today, and we are privileged to work with them. The statements published here are the product of an enormous planning effort on their part and on the part of their school faculties, students and staffs. Both personally and on behalf of the University, we are very grateful for that effort and applaud its results.

We invite members of the Penn community to share comments or reactions to this publication. Please submit written comments by Friday, February 7 to the President's Office, the Provost's Office, any of the Deans or via e-mail to plan@pobox.upenn.edu.

We look forward to hearing from you.

Judith Rodin
President

Stanley Chodorow
Provost

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The School of Arts and Sciences: Priorities at the Core

Walter D. Wales, Acting Dean

The School of Arts and Sciences is at the core of the University. Its faculty represent those traditional disciplines that emerged as universities evolved over the past millennium. That faculty teaches not only its own students, but it also teaches much of the curriculum for the entire undergraduate student body. The distinction of the School of Arts and Sciences is a prerequisite to the distinction of the University of Pennsylvania. Its fortunes and the fortunes of the University are inextricably linked.

The School of Arts and Sciences will secure Penn's identity as a major research institution in the 21st century. The faculty of the School will broaden the base of fundamental human knowledge and will provide the focal point for bringing together the diverse research and teaching activities of the University. Strengthening this core of the institution must remain central to any plan for preserving Penn's reputation as one of the premiere universities in the world.

Within the School of Arts and Sciences the creation of new knowledge and its dissemination are inseparable; together they form the essence of the School. The scholarship of the faculty influences the way future generations will think, work, and live. The education of SAS students provides the next generation with the intellectual foundation for leading productive, satisfying lives. The positive interaction of both beginning and advanced students with such a faculty, including direct participation in research, remains a defining principle of Penn.

The School's challenge is to balance the needs of broad intellectual reach with targeted priorities in areas of excellence. Our mission dictates that we bring together a wide variety of intellectual domains, both to foster the advancement of knowledge and to provide a coherent educational experience for our students. In a world of rapidly expanding knowledge and limited financial resources, however, the School must choose carefully where to focus its efforts. Toward this end, SAS has selected certain intellectual areas for special attention over the next five years. These will build on our proven excellence and invest in breakthrough fields that will be at the forefront of knowledge in the 21st century.

Faculty

The key to excellence, both in scholarship and in teaching, is a distinguished faculty. As the School plans new facilities and programs it is essential that this crucial component not be neglected. The faculty of the School is its most valuable resource. This resource must be nurtured by providing appropriate salaries, recognition for their achievements, and assistance in securing external support for their scholarship.

Renewal of knowledge is essential for the intellectual life of the School, and that renewal depends on a continuing infusion of outstanding junior faculty members. Inasmuch as senior faculty members now represent over eighty percent of the total standing faculty, during the next five years the School will focus its faculty recruiting efforts on promising junior scholars, with exceptions made only for a few areas where meeting the School's intellectual goals requires immediate senior strength.

- Additional endowed chairs will be secured to recognize the achievements of distinguished senior faculty members.
- The focus on recruiting junior faculty will increase the fraction of junior faculty from 20% in AY1996-97 to 23% in AY2001-02.
- The School will appoint and reward faculty on the basis of research quality, teaching quality, service to their department, the School, and the University, and other relevant performance standards.
- The School will work to increase the number of women and minority members on its standing faculty, particularly in those areas where they are underrepresented relative to their presence in the pools from which faculty are recruited.

Undergraduate Education

Just as the School of Arts and Sciences is the intellectual core of the University, so the College of Arts and Sciences is its educational core. The other undergraduate schools rely on SAS faculty for many of their essential courses. The faculty of the School must be bound together by its

commitment to excellence in undergraduate education. This shared belief in the value of a broad liberal arts education provides the principal common focus for the faculty's diverse disciplines.

The quality of the undergraduates attracted to the college has improved markedly in recent years. Our goal is to see that each one of them has access to an education that both lays a foundation of knowledge and promotes the development of essential creative and critical skills. We will continue to sharpen this education, strengthening the teaching of writing and quantitative skills, exploiting modern technology, and making available meaningful research experiences to all undergraduates. The most important component of this education continues to be the individual teacher. We will continue to encourage good teaching, both by public recognition and by careful attention to teaching ability at the time of appointment and promotion. Success in these initiatives will produce an increase in the number of applicants and an increase in the average student quality, which is already very high.

- The writing program will be reorganized in AY1996-97, a quantitative skills program will be introduced in AY1997-98, and language instruction in disciplinary context will be developed in AY1997-98.
- Opportunities for research experience will be made available for all students by AY1998-99.
- The College Office will be relocated to a central position on campus in Logan Hall by June, 1998.
- Professional academic advising services will continue to be improved; faculty advising will be extended and refined. Procedures for ongoing evaluation of faculty, peer, and professional advising have already been implemented.
- A major effort is being made, in cooperation with the other undergraduate schools, to understand the financial and social problems which lead certain minority students to leave the University prior to graduation. Solutions to these problems will be implemented to improve the retention of minority students.

Graduate Education

SAS will maintain a leading role in educating the next generation of scholars in the humanities and social and natural sciences. The apprentice system of training graduate students contributes to the vitality of current faculty research and the reputation of the University as a research center. The School will nourish its premiere graduate programs and improve others, remain competitive in recruiting top applicants, vigorously attend to the training of our young scholars as teachers, and offer them maximum assistance in job placement. The School will move forward recognizing fully the challenges facing graduate education today: shrinking numbers of top-quality applicants, dim employment prospects for newly-minted Ph.D.s, and fellowship funding constraints. We expect that these actions will result in a cohort of Ph.D. students that are, on average, abler, better-supported, and more competitive in the arena beyond graduate school. The School will also move to meet rising demands for structured post-baccalaureate education not aimed at the Ph.D. Success in this initiative will meet genuine educational needs as well as contribute in a significant way to the solution of the School's financial problems.

- A new fellowship allocation system aimed at attracting truly exceptional students with competitive, multi-year packages of financial aid will be implemented in AY1997-98.
- School-based Master's programs in Bioethics and Biotechnology and a new M.Phil. degree will be established in AY1997-98. New Master's programs in Environmental Science and Museum Studies will be established in AY1998-99.

Humanities

In the core humanities areas we now have many internationally-renowned faculty members. Our strength in these core areas will be maintained. The School will also establish a Humanities Center that will

integrate the various and diverse humanistic activities across the School. The Center will explore vital connections between various branches of learning, encourage imaginative interdisciplinary and interdepartmental programs of teaching, foster scholarship that crosses departmental boundaries, deepen research in non-western environments, and thus improve the national profile of the humanities at Penn.

In addition, a primary goal in SAS will be to improve the quality of a number of facilities in the humanities. Real progress has already been made in this regard. The Department of the History of Art is now lodged in the magnificent new Jaffe Building. The Department of History can begin to look forward to returning to a refurbished College Hall. The renovation of the interior of Logan Hall will provide space for the departments that were temporarily exiled to Market Street. However, the facilities in Bennett Hall, where the Department of English is housed, are in deplorable condition, and must be refurbished. The facilities now used by the Department of Music present a similar problem.

- A Center for the Humanities in the Contemporary World, to be housed in renovated space on the sixth floor of Van Pelt Library, will establish Penn as one of the major international centers in the humanities. Initial programming will begin in AY1997-98, with the library renovation to be completed by AY2000-01.

- Plans for the renovation of Bennett Hall and the Music Building will be prepared by AY1998-99. Renovations could begin the following year provided finances and swing space can be arranged.

Social Sciences

In the social sciences three of the four core departments are outstanding. We will seek to make them even better, and we will encourage them to embark on more adventurous collaborations with faculty in other departments and other schools of the University. Political Science, the fourth core department, is not nearly as robust as the other three departments. The School of Arts and Sciences must give high priority to building a truly distinguished Department of Political Science. This will require additional senior appointments within the department as well as strategic joint appointments with other schools and with the other social science departments. The link between this School priority and the University's priority on "American and Comparative Democratic and Legal Institutions" will focus both attention and resources on this venture. Success here will contribute greatly to the overall standing of the School and the University.

- A University Task Force on the American and Comparative Agenda has been established. This task force, working with the department, will structure the overall agenda and identify outstanding scholars to recruit to the faculty. These new appointments will be made over the course of the next two years.

Natural Sciences

A strong presence in the natural sciences is an essential component of a distinguished School of Arts and Sciences and of a first-rate research university. Our strength in these areas is marked by a mixture of world-class programs—as good as the best anywhere—and those that are less strong. The boundaries of excellence do not necessarily coincide with departments: a given department may contain superb work in one subfield, while other subfields may be weaker or even absent. The extraordinary expense of experimental work in the natural sciences, combined with growing limitations in support from the federal government, precludes the obvious strategy of maintaining all of the strong areas and improving the weak ones. Across-the-board distinction will not be possible under these circumstances: we must make painful choices, guided always by our best judgment concerning which breakthrough fields will best reward the investment of intellectual and financial capital.

Two areas identified by the School as central scientific priorities are the study of mind, brain, and behavior and the exploration of the structure and dynamics of materials in living and non-living systems. Both of these align very well with the emphasis in the *Agenda for Excellence* on the key role envisioned for the life sciences in the 21st century. Work in the first of these critical areas will be vital to our Department of Psychology, arguably the best of our natural science departments, with strong intellectual ties to both the School of Engineering and to the School of Medicine, as well as to our excellent Department of Biology, where the molecular basis of behavior is an important research focus. Both of these departments are

conducting world-class research in facilities which are frankly abysmal. These facilities must be replaced or renewed. The second area of emphasis, which includes the synthesis, study, and characterization of new materials, is central to our rapidly improving Department of Chemistry, and will benefit from the substantial previous investment by the School and the University in the facilities of the Roy and Diana Vagelos Laboratories of the Institute for Advanced Science and Technology (IAST). The third area of high scientific priority identified by the School, astrophysics with an emphasis on the early Universe, is well under way and will be continued.

- Plans for new or renovated facilities in the life sciences will be carried out as follows. In Biology, plans for renovated facilities will be drawn up during AY1996-97. Funding sources will be sought to permit a phased renovation beginning in AY1998-99 and ending in AY2000-2001. In Psychology, a facilities statement will be completed by the end of AY1996-97. Building plans will be developed during AY1997-98; actual construction could begin as early as 1998-99.

- To exploit scientific opportunities in chemistry stimulated by problems in materials and related fields, the excellent new facilities of the IAST will be used to recruit scientific leaders to the Department of Chemistry. This will permit the new programs to attain immediate visibility and a high probability of achieving substantial support from the federal government.

Other initiatives, previously given priority by the School and already underway, will be continued. The Laboratory for Research on the Structure of Matter (LRSM), which has just had its NSF funding renewed for five years, will continue as a focus of research on materials, supporting interdisciplinary research including scientists from the School of Arts and Sciences (Chemistry and Physics), from the School of Engineering and Applied Science, and from the School of Medicine. The renewal of the LRSM and our initiative in Chemistry, backed by excellent new facilities, will reinforce and strengthen each other. The program in astrophysics, now off to an excellent start in the Department of Physics and Astronomy, will reach critical mass as the department redeploys its resources to support work in this exciting forefront area.

Development and Budget

The plans for the School of Arts and Sciences require substantial resources beyond those now in hand. These resources must be found if the School, and hence the University, is to prosper in the decades ahead.

Facilities—The renovations listed above will require approximately \$100 million during the next five to ten years. It is essential that these facilities be fully funded from new resources. Borrowing against future operating income, as was done on some past construction, would have a disastrous impact on future operating budgets.

Operations—The operating budget of SAS now shows what appears to be a growing structural deficit. The faculty of the School has decreased from about 500 to about 450 in the past five years. Future faculty growth may well occur in strategically-important disciplines and programs, but any overall increase in the size of the faculty will first require real improvement in the School's financial picture. The School can provide adequate support for a faculty of this size only if additional resources can be found. An increase in the endowment of \$200 million for undergraduate financial aid, for faculty chairs, and for start-up funds in the sciences would permit the School to make rational plans for its future. Other sources of increased income include the Master's programs mentioned above and increased research support from the federal government. Although overall federal support for research is not expected to grow in the country as a whole, the School's investments in facilities for science should permit its faculty to increase federal support for its work.

Summary

The School of Arts and Sciences has developed an ambitious plan for targeted improvements in faculty, educational programs, and facilities. During the next half decade the School, with the assistance of the University, must confront the challenge of identifying the resources necessary to sustain this plan. Meeting this challenge will permit the School to sustain its role both as a distinguished intellectual and educational enterprise in its own right and as the primary catalyst for productive alliances among all of the schools of the University. SAS will be a school in which its faculty, students, and alumni will take justified pride.

Achieving Excellence: Designing the Future of the School of Engineering and Applied Science

Gregory C. Farrington, Dean

Technology is transforming our times. All universities must concern themselves with technological change, its impact on society, and the need for their graduates to be prepared for creative and humane leadership in a technological world. SEAS is the one school at Penn that deals exclusively with issues of technology and thus is an integral partner in leading Penn into the 21st Century.

The goal of Penn's School of Engineering and Applied Science is to be and to be perceived as the finest small school focusing on technology within the context of a large, intellectually diverse university.

SEAS strives to attract the finest undergraduate, graduate, and professional students and prepare them for leadership roles in engineering and applied science as well as in other fields, such as medicine, business, and law, for which creativity, rigorous quantitative thinking, effective communications skills, and a strong commitment to humane values are essential.

Since the most successful Penn graduates will be those who embrace the new technological tools of innovation and are capable of making intelligent decisions about technology, SEAS also has the mission to liberalize and broaden the scope of other educational programs at Penn, particularly those in the undergraduate schools, by providing accessible education in critical technological thinking and preparation for creativity in the information age.

Research is a central aspect of the creative mission of SEAS faculty and students. The School must be known for research that defines the forefront in areas of contemporary intellectual vitality and is a magnet for the finest students and substantial external funding.

To achieve these goals, SEAS first must be distinguished by outstanding and entrepreneurial faculty whose research and teaching are truly exceptional. SEAS faculty also should be boundary-less in their vision and seek out intellectual linkages with the rest of Penn to create programs of research and education that would be impossible at more specialized institutions.

Designing the Future of SEAS

Any plan for SEAS must begin by understanding that it is a school intellectually intertwined with the larger Penn. Among U.S. universities, Penn packs more intellectually exciting schools and disciplines into a smaller geographical area than virtually any other. Few schools of engineering and applied science have the opportunity to engage in the variety of collaborative programs that SEAS does. This intellectual diversity and concentration are key strategic advantages Penn and SEAS have over the competition, and SEAS values greatly its outstanding joint programs and collaborations with the School of Arts and Sciences, the School of Medicine, and the Wharton School, to name just three.

SEAS is also small compared to its competition. The very top engineering schools in the U.S.—the single-focus institutes and the big state schools—are typically four to five times the size of SEAS, in faculty numbers, student population, physical facilities, and numbers of graduates. SEAS is comparable in size to engineering schools at Ivy League universities, all of which have engineering programs of some size. So, if its intellectual impact is to be greater than its numbers might suggest, SEAS must focus and take special advantage of all of Penn in building its programs and extending its intellectual reach.

It is clear from the planning process that there are three specific areas in which SEAS has the potential for major intellectual and educational leadership: biomedical engineering/biotechnology, information science and technology, and materials science. These are the intellectual themes that constitute the focus of the School's future activities.

Specific SEAS goals, the means of achieving them, and measures of success are summarized in the following discussion.

Goal 1: Intellectual Leadership and Recognition

Above all else, SEAS departments and programs must be and be recognized as among the finest of their type. Whatever the School does

must be excellent. When size makes it possible, departments should rank in the top ten. When smaller size prevents a department from reaching top status, it should nevertheless achieve a level of educational excellence and intellectual productivity that places it, on a per capita basis, among the very best in the country.

Fortunately, SEAS is already in a very strong position. Of the six of its departments that were reviewed in 1995 by the National Research Council, three ranked among the top eleven programs in the U.S.: Bioengineering (5th), Materials Science and Engineering (10th) and Chemical Engineering (11th). This is a remarkable achievement for a school the small size of SEAS, which has only 20-25% of the faculty of the major engineering schools in the U.S.

To achieve this goal, SEAS pledges to hire only the finest new faculty—educators and scholars who are not only outstanding intellectually but also possess the curiosity and entrepreneurial drive that will establish them as major academic leaders. Departments will search and select new faculty strategically and collaboratively, with the goal of achieving focused excellence in key intellectual areas.

SEAS also will establish and reward faculty on the basis of appropriate standards of productivity such as teaching quality and productivity, research quality, leadership and funding, publications, citations, intellectual leadership, and other relevant performance standards. Departmental strategic plans will be prepared and undergo rigorous internal and external review by appropriate ad hoc committees of outstanding professionals and educators. This process will occur every five years. Finally, SEAS will end educational programs and research centers that are neither central to the mission of the School nor have prospect of achieving leadership status.

The ultimate success of these initiatives will be in having SEAS achieve recognized excellence for its departments and programs. In the near term, the School will strive to improve the standings of all of its departments and, in particular, to attain top 10 status for Computer and Information Science.

Goal 2: Undergraduate Education: The Technological Liberal Arts

SEAS is defining an exceptionally powerful undergraduate curriculum, one that combines rigorous education in engineering and science with a strong commitment to the liberal arts. This course of study emphasizes critical quantitative thinking combined with a strong background in the humanities, communications skills, and other characteristics essential for intellectual and creative leadership. It is arguably the most effective undergraduate preparation for intellectual leadership in the 21st Century. SEAS is already distinguished by its strong program in the *Technological Liberal Arts* and aims to ensure that it is the leading program of its kind in the U.S.

To achieve this goal, SEAS will begin by simplifying and focusing its undergraduate programs to ensure that they are well-conceived and effective. SEAS will also implement a more common curriculum during the first two years of undergraduate education, achieve closer interaction between SEAS faculty and students during the first year, and strengthen undergraduate advising. SEAS will create one or two additional flagship programs of the M&T type that give the School a competitive advantage in attracting the best matriculates. Prime candidates are Biotechnology, Telecommunications, and International Technology. The School will also offer minors in areas such as Information Science, Telecommunications, and Biotechnology for students who are not majoring in science and engineering. Finally, SEAS will continue to refine its aggressive program of undergraduate recruiting.

Success in these initiatives will be measured by a rise in the number of applicants, a decrease in the admissions rate, an increase in the matriculation rate, and an increase in average student quality, which is already very high.

Goal 3: Graduate Education and Research

Excellence in research is essential to the entire educational mission of SEAS, at both the undergraduate and graduate levels. SEAS is committed to attracting outstanding graduate students and providing them with educational opportunities of the highest quality. A major focus in the coming several years will be on developing high quality terminal master's programs to extend the educational impact of the School, link it more

closely with industry, and provide a buffer against uncertainties in other sources of revenue.

To help achieve these goals, SEAS has already diversified its research programs and funding sources, which historically have been focused on the National Science Foundation and the defense establishment, by establishing the Institute for Medicine and Engineering in partnership with Penn's School of Medicine. In the coming several years, SEAS will carefully examine its Ph.D. programs to determine whether structural changes should be made to enhance job opportunities for Ph.D. graduates and make its Ph.D. programs even more attractive to the finest students. A new 'Towne Fellows Program' in which an elite group of Ph.D. students has been offered a special program of study involving courses drawn from the Executive Masters of Science in Engineering (ExMSE) program is already underway.

In master's education, SEAS is committed to maintaining the ExMSE as the 'gold standard' among competing programs and exploring an even more powerful alliance with the Wharton School to organize, manage, and market this program. Additional master's programs will be created, starting with Telecommunications (AY96-97), Biotechnology, initiated by SEAS and SAS with participation by IME and Medicine (AY 97-99), Bioinformatics and others in Bioengineering, Electrical Engineering, and Computer and Information Science.

Success in these initiatives will be measured in outside recognition of SEAS research leadership, growth in research funding, selectivity in the Ph.D. applications process, quality of Ph.D. students, the placement of Ph.D. graduates, and student quality, placement and revenue growth in the masters programs.

Goal 4: Increased Diversity

SEAS will work even more aggressively to achieve a larger population of under-represented minorities and women among its faculty and students. Enhancing the retention of minority students is of particular concern.

Goal 5: Improved Facilities and Infrastructure

SEAS is committed to major investments in construction and renovation to provide outstanding research and teaching facilities.

The boldest initiative for achieving this goal is the IAST (Institute for Advanced Science and Technology) project. IAST-1, currently underway, will provide SEAS with modern space for 'wet' research and will house the Institute for Medicine and Engineering. SEAS has begun detailed planning for IAST-2, a program whose first goal is to provide modern space for Computer, Information, and Cognitive Science and second goal is to renovate laboratory and office space in the Towne/GRW/Morgan buildings. SEAS is also committed to developing a consolidated engineering/science library in Hayden Hall, in partnership with SAS and the Penn library leadership. Finally, the School is continuing a major program of investments to upgrade its communications network, teaching facilities, physical plant, and existing research facilities. The focus is on the needs of programs that have attained or are likely to attain major leadership positions and attract substantial external funding.

Goal 6: Development, Income, and Resources

SEAS pledges to continue its record of achieving annually balanced budgets. The School has already significantly reduced staffing costs and continues to monitor its operations and staffing closely. Some staff growth will be necessary to take advantage of new revenue opportunities, particularly in the development and the management and marketing of master's programs.

The School expects to achieve a growth rate of funded research income that is twice the level of inflation and to earn \$1-2 million annually in net new revenues from master's programs as they become fully operational.

SEAS priority needs in development over the next five years include: \$25M in capital expenditures, \$12M in faculty support to endow five new professorships in key thrust areas and provide an adequate pool of discretionary start-up funds to attract key new faculty at all levels, \$8M in new endowment to offset SEAS undergraduate student financial aid costs, and an additional \$5M for undergraduate and graduate programmatic support. The largest item on this list, \$25 million for capital expenditures, is the estimated cost of completing IAST-2. In addition, SEAS plans to work with SAS and the Penn Libraries to raise the approximate \$10-15M cost of creating a new Engineering/Science Library.

The School of Nursing's Strategic Plan through 2001

Norma M. Lang, Dean

In the School of Nursing concern for the well-being of individuals, families and communities inspires our research and informs our practice. The discipline of nursing possesses unique qualities and brings valued knowledge as providers, payors, and legislators deliberate over the cost, quality, and control of the entire health system. Nursing's scientific incisiveness, coupled with caring and compassion, makes our scholarship and leadership crucial in guiding the future of health care during these transformative times.

Our tripartite mission in *education, research, and patient care practices*, our unique strengths in each of these areas, and our commitment to their successful integration position the School as a leader among the top-tier Schools of nursing nationally and internationally.

Faculty and clinicians design, demonstrate and investigate the best in patient care practices. Through the School's research, creative interventions in patient care are discovered, new delivery models that ensure quality and cost-effectiveness are developed, and health care policy is formulated. We produce leaders whose research-based education and practice advances the profession's and the School's educational mission in academic, clinical, policy, and administrative settings throughout the world.

The School of Nursing's emphases on health policy, health services, and health and disease management significantly advance the University Academic Priorities in Life Science, Technology and Policy, while its academic nursing practices and research in urban health are vital components of the Urban Agenda.

Key Strategies Through 2001

- Maintain top-tier ranking.
- Continue to recruit and retain outstanding faculty.
- Implement curricular initiatives to strengthen matriculation of the most able students across all programs, as well as increase the number of full-time Ph.D. students and post-doctoral fellows.

- Increase federal funding for research to capture first place standing nationally in research and research training.
- Develop an Institute for Life Long Learning.
- Continue programming to increase multicultural competence for students, faculty and staff.
- Position the patient care practices of Penn Nursing Network as a model for academic nursing within a framework of fiscal viability and assurance of research opportunities, educational experiences, and exemplars of best practices.
- Provide leadership in two of the University's academic priorities.
- Build the financial base to meet the School's goals in education, research and practice through fund-raising targeted for superior faculty and students, capitalization for practices, support for and creative deployment of new technologies, and enhancement of physical plant.

Education Through 2001

A major commitment of the School is preparation of nurses who can provide the intellectual leadership required to influence significantly the public's health, as well as the future of health care delivery nationally and globally. As creative thinkers and problem-solvers, nursing students are prepared to be clinical leaders who can conceptualize and implement new models of health care for the 21st century.

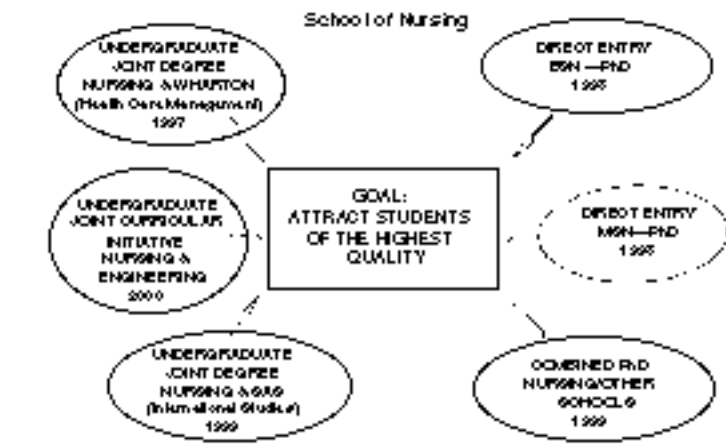
The faculty believe that preparation of nursing leaders begins with the baccalaureate program. It is at the undergraduate level that students acquire the knowledge, spirit of inquiry and skills essential to make lifelong, substantive contributions to the profession and to the people it serves. By the year 2001, projections are that the undergraduate program will have 435 students, a slight reduction from current numbers which include two unusually large classes. Of these students, 60% will be traditional out-of-high-school students and 40% will be non-traditional students who have degrees in other fields. The undergraduate program has a graduation rate from the university of 92%, an employment rate at

graduation of 70%, and the highest average starting salary among Penn undergraduate schools.

Moderate increases in our master's and doctoral programs are predicted. Increasing the MSN program provides sophisticated advanced practice nurses who can deliver high-quality, cost-effective patient care in a complex, changing health care market. By increasing its Ph.D. enrollment to 112 students, the School of Nursing will address a continuing shortage of doctorally-prepared researchers. Increased numbers of doctoral students will require efforts to obtain public and private support, and creative financial packaging strategies for full-time study. To attract the most able students, as outlined in Figure 1, we will pursue joint curricular initiatives with other schools at the undergraduate and doctoral levels, and direct entry programs from BSN to Ph.D. and from MSN to Ph.D.

The School of Nursing is developing an Institute for Life Long Learning in nursing in collaboration with the University of Pennsylvania Health System.

Figure 1
Education: program strategies

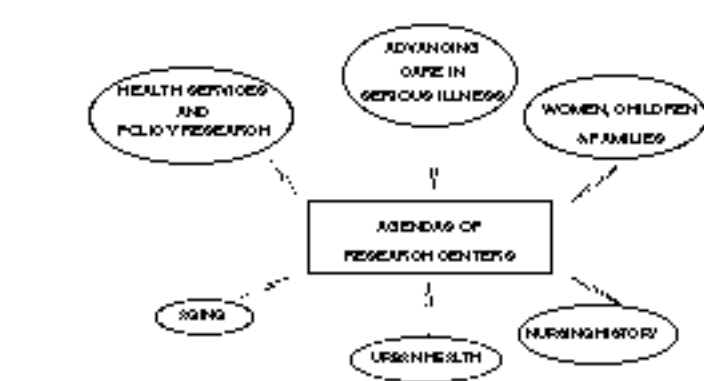


Research Through 2001

The research mission of the School of Nursing is to maintain the widely acknowledged excellence and world renowned status of faculty scholarship in serious illness; women, children and families; nursing history; urban health; aging; and health services and policy.

Currently, we are ranked second in federal funding for nursing research, a remarkable achievement given the size of our faculty, approximately half that of the School's two academic peers. Research funding per capita far exceeds our competitors. Nevertheless, we intend to increase overall funding for research using the collaborative resources and leveraging capability made possible by our research centers, depicted in Figure 2. In addition, to meet our funding goal and to position ourselves for new opportunities, faculty size will increase.

Figure 2
Research now and in 2001



The School's research contributes to the Six University Academic Priorities, particularly priorities for Life Science, Technology and Policy, and the Urban Agenda. Each of our research centers is broad enough in focus to respond to our global mission for excellence in nursing care. We will

remain at the top in federal funding and increase our federal and private research funding considerably. Most importantly, we will continue our substantial contributions to the health and well-being of all people.

Practice Through 2001

Through creation of the Penn Nursing Network (PNN)—the name of the School's patient care practices—we lead the discipline in development of best models of health care. Based on years of faculty research focused on best clinical practices, PNN operationalizes those practices and provides an ideal place for exemplary teaching and real-world learning, and an ongoing site for further research on the interventions and outcomes of care.

These practices are in Philadelphia, thus providing a significant contribution to the university's Urban Agenda. Clearly, they also contribute to the health and disease management component of the Life Science priority. A large data base generated from a comprehensive and uniform data gathering protocol for these practices will allow us to examine closely the costs and outcomes of our innovative models of community-based health care. Continuing partnership with the University of Pennsylvania Health System is an essential part of advancing best patient care practices.

Faculty Composition Through 2001

The School of Nursing has a small, but extraordinarily productive, standing faculty comprised of approximately 50 tenure line faculty and clinician educators. We have 16 endowed or term chairs and we are fortunate to have four minority faculty members. Deliberate and careful growth of the standing faculty is needed to accomplish our tripartite mission in education, research and practice.

To retain faculty and to recruit additional national and international stars, our fund-raising strategy will target endowed and term chairs. By 2001, we plan to have a total of 12 endowed chairs along with 15 term chairs. Increases in extramural research and practice funding to support the increased numbers of faculty are also planned.

Resource Needs and Plans

The School of Nursing's greatest need for resources is to support the following strategic goals:

- * Recruiting and retaining stellar faculty;
- * Maintaining top-tier status in research;
- * Attracting the best and the brightest students;
- * Positioning the Penn Nursing Network at the leading edge of practice;
- * Developing use of the latest technologies and enhancing physical facilities.

In 1994, we established a fund-raising goal of \$30 million through the year 2000 to support the School's needs for financial aid and faculty chairs, and for support of research and practice. Recently the goal was increased to \$35.3 million through the year 2001 as part of the Agenda for Excellence. Approximately 48% of the latest figure represents new endowment funds. To date, \$17.5 million has been raised; current market value of the School's endowment is \$15 million. Our goals are ambitious but attainable.

Six University Academic Priorities

Research, education, and practice in the School of Nursing contribute to and enrich the Six University Academic Priorities. In collaboration with other schools, nursing faculty are committed to leadership in the priorities for Life Science, Technology and Policy, and the Urban Agenda. While the foundation for this leadership is in place through our faculty, centers, and practices, an even greater leadership role in these priorities would require an endowed chair(s), as well as fellowship and other support.

Summary

The critical elements of scholarship, excellence in teaching, and innovative practice are in place to allow the School of Nursing at the University of Pennsylvania to lead the discipline and shape nursing's role in health care for the 21st century. The School is an outstanding example of Ben Franklin's belief in the benefits of education and intellectual effort. By integrating education, research and practice, nursing enhances its commitment to both theory and practice and the linkages between them. This process is articulated as a continuum through which knowledge of basic sciences, arts and humanities, and health are transferred to benefit patients, families and communities. This translation of theory into practice is the wellspring for research which ultimately influences policy and, we hope, creates a better world in which to live.

Wharton 2000: Summary of the Strategic Plan of the Wharton School

Thomas P. Gerrity, Dean

The Wharton School holds the distinction of being the first collegiate school of management in the world. From our early history, the School has been a pathbreaker and pacesetter in business and management research, education and practice. In recent years, the School has moved forward from that strong position to take a clear preeminent position as the innovative leader in management education.

We are widely recognized for our unique breadth and excellence in research and education, prompting *Business Week* to say that "Wharton is more of a business university than just a B-school with tremendous range." Indeed, we are the only school among our first-tier peers that serves students through the entire continuum of business education—from undergraduate to executive education—and we do this as the largest of the top business schools.

Global competitive pressures on business are intensifying at a startling rate and are the single most important challenge facing the business community. These market pressures are forcing companies—and nations—to radically rethink the way they do business. Some are restructuring, often in ways that are painful for employees and communities. Many are seeking help from educational institutions to understand and address the rapidly changing environment through leading-edge research and executive education. And they are demanding more from business school graduates—and consequently from business schools themselves—especially in the form of the so-called "soft skills" such as leadership, communication, team building and negotiation. Advances in information and communication technology are also radically affecting what students will need to know to succeed *and* how they learn; they are also creating significant change in research methods and dramatically expanding the worldwide channels for disseminating knowledge.

To prepare our students to be effective in this changing business environment, we ourselves have had to change as an institution. Our history of innovation has proved to be an invaluable competitive advantage. We have been able to redefine what a business school should be: entrepreneurial, interdisciplinary and global.

Strategic Goals

1. The Wharton School will achieve the highest level of excellence in each of the School's educational programs.
2. The Wharton School will achieve broad research excellence with the highest impact on management practice and policy worldwide.
3. The Wharton School will attract and develop the finest faculty in teaching and research.
4. The Wharton School will be the leader in globalization of management education and research.
5. The Wharton School will continue to build the strongest community of faculty, staff, students, alumni and other external stakeholders as a major source of its continued success.
6. The Wharton School will secure the resources necessary to accomplish its strategic initiatives and sustain and strengthen its leadership position in business education.

Initiatives

- Continue leadership in curricular innovation in each of the School's programs.
- Continue leadership in interdisciplinary programs and partnerships.
- Ensure the highest quality of teaching in all of the School's programs.
- Recruit the world's best students for all of the School's programs.
- Devote substantial resources to expand the School's leadership in instructional technologies.
- Expand faculty cross-functional interchange within the School and across the University.
- Disseminate the School's research findings through a comprehensive Impact Communications Program.

- Expand efforts to increase global content in faculty research activities and in the curricula.
- Enhance opportunities for faculty global exposure.
- Continue to develop and enhance key international programs.
- Grow and strengthen ties with the School's global alumni network.
- Develop new instructional approaches to leverage the strong international student experience present in Wharton's classrooms.
- Explore the use of the Internet, videoconferencing and other new technologies to advance the School's globalization goals.
- Expand communications initiatives to internal and external communities.
- Continue to support and expand faculty and student service in local, national and global communities.
- Remain committed to seeking, valuing and respecting diversity in our immediate and extended communities.

Outcome Measurements and Assessments

Educational Excellence

- Sustained and strengthened recognized premier position of the School's undergraduate, MBA, WEMBA and executive education programs.
- Premier position for the School's Ph.D. programs.
- New cross-functional programs:
 - joint BSEcon/JD submatriculation program with Law School
 - joint undergraduate degree program with Nursing School
 - master's in accounting program
 - expanded submatriculation MBA for Wharton undergraduates
 - selected University minors
 - continued expansion of cross-functional perspectives in courses
- Increasingly qualified pool of students attracted to each degree program and steadily increasing yield rate of the most talented applicants.
- Students in key leadership positions after graduation:
 - further study in top graduate and professional schools (under graduates)
 - recruiting and career placement (undergraduate and MBA)
 - appointments to top university faculties (doctoral)
- Comprehensive benchmarking analysis to identify market trends and best practices to apply to the School's programs through:
 - extensive competitive analysis and comparison
 - independent student surveys over time
 - independent surveys of alumni and recruiters
 - periodic review of performance metrics with faculty and alumni boards

Faculty/Research Excellence

- Standing faculty growth, with the goal of bringing student/faculty ratio closer to peer norms.
- Increased number of endowed professorships.
- Student course evaluations and annual survey of student satisfaction incorporated into ongoing process to identify areas for focus of teaching resources.
- Periodic independent surveys of faculty to monitor and improve the academic environment for research and teaching.
- Premier research position in each academic program, department and discipline, and in international research.
- Leadership position in expanding information technology support for high-impact faculty research.
- Use of the School's comprehensive performance assessment process to set goals and evaluate progress in research initiatives in each department.

Globalization

- Recognized #1 position for Wharton as the most global business school in the world.

(continued)

- Increased student exposure to global nature of business through:
 - utilization of international student body presence in the class room
 - increased opportunities for study, site visits and work abroad
 - greater exposure to international alumni executives, visiting scholars

Community/Diversity

- Steady progress in recruiting a student body of ethnic, international and gender diversity.
- Increased number of women and underrepresented minorities on the standing faculty, and in senior staff and administrative posts.
- Increased engagement of students in partnership with faculty and administrators to identify challenges, develop and implement strategies to strengthen School programs.
- Additional outlets for student volunteer involvement in the greater Philadelphia community.

Resource Requirements

To meet these goals, we will increase our resource base through the following means:

- Utilizing the most efficient management practices to reduce administrative costs.
- Expanding executive education income contributions to the general operating costs of the School.
- Embarking on a \$350 million six-year fund-raising initiative that will include:
 - a major priority focus on term and endowment resources for faculty support
 - term and endowment resources for major academic programs and student aid
 - capital funding to build a new academic facility and retrofit existing space
 - increased ongoing unrestricted support.

The Annenberg School for Communication: Summary of the Strategic Plan

Kathleen Hall Jameson, Dean

The Annenberg School for Communication offers students a firm grounding in various approaches to the study of communication and its methods drawn from both the humanities and social sciences. It is an intellectual common market built on nearly four decades of interdisciplinary dialogue. The School houses communication theorists and researchers, including social scientists, historians, and critics. The purpose of the M.A.C. and Ph.D. degree programs is to prepare students to make professional contributions to communication scholarship, research, and policy. The undergraduate major, offered through the School of Arts and Sciences, introduces students to both communication theory and research methods.

The School's Annenberg Public Policy Center and its Washington DC office focus scholarly attention on four of the areas of inquiry central to the School's research and teaching agenda: the role of media in shaping the dialogue of democracy, health communication, the role of information in society, and the impact of media on the developing mind. Each of these policy areas is tied to one of the University's areas of strategic concentration.

The 1996 Speech Communication Association Survey placed the School at the top of the field in health/political communication and media studies and criticism. In the 1996-7 academic year the School enhanced its strength in media studies and criticism with two hires. The five hires in the communication and public policy area that we forecast making in the next five years will consolidate our strength in health and political communication and enhance our visibility in information and society and media and the developing mind. Building space for the Public Policy Center into the School in 1997-8 will create administrative and faculty space to house these new hires as well as the School's public policy activities.

Goals

By 2001 the School plans to:

- change the undergraduate faculty/student ratio from 1/20 to 1/10 and graduate ratio from 1/9 to 1/5. This will be accomplished by increasing the size of the standing faculty from 13 to 20 including five public policy hires; and
- build the policy center into the School and in the process upgrade the School's technological capacities.

By catalyzing and disseminating collaborative research, the School plans to increase both the School and the University's national and international reputation and visibility in the four areas central to the policy center. Within the University, the School will accomplish this by creating links to other University departments and schools, by making joint public policy hires, by increasing collaborative research and team-teaching, and by making effective use of the Annenberg Public Policy program in Washington.

Beyond the University, the School will accomplish these goals by creating links among University alumni in New York and Washington DC, by informing policy leaders about work by Penn faculty and by attracting grants in these areas.

While conducting research on grants involving media portrayal of political advertising (funded by the MacArthur Foundation), the structures of news (funded by the Markle Foundation), the study of the health care reform debate (funded by the Robert Wood Johnson Foundation), the emergence and impact of talk radio (funded by the Ford Foundation and Carnegie Corporation of New York), discourse norms in the 1996 presidential campaign (funded by the Ford Foundation, the Pew Charitable Trusts, and the Carnegie Corporation of New York), and the impact of candidate use of network 'free time' (funded by the Pew Charitable Trusts), the Annenberg School faculty has developed an integrated team model that involves both graduate students and undergraduates in the research process. In the current academic year, 27 undergraduates are engaged in this process. We anticipate continuing to work within this model and, as funding permits, will increase the number of undergraduates involved in this process.

The Annenberg School will continue its efforts to recruit and retain underrepresented minorities and women both in the graduate student population and on the faculty.

Outcome Measures

In the next five years, we anticipate that we will continue to attract and retain top students and that the excellence of our programs and research will be reflected in awards and honors for our faculty and students. In the past five years, members of the Annenberg faculty have received the Speech Communication Association's Diamond Anniversary Book Award, The International Association for Public Opinion Research's Helen Dinerman Award, a Guggenheim Fellowship, two Freedom Forum Fellowships, the International Communication Association's award for mentoring, The Douglas Ehninger Award for lifetime contributions to rhetorical scholarship, and the Speech Communication Association's Distinguished Career in Scholarship award.

The Annenberg School is the only school or department of Communication or Political Science to house two winners of the American Political Science Association's Murray Edelman award for distinguished lifetime contributions to the study of Political Communication and two winners of the Shorenstein Award for Contributions to Press and Policy. Three members of the Annenberg faculty are International Communication Association fellows.

Resources

The School and Public Policy Center are funded with revenues from a permanent endowment. Projected revenues are sufficient to support the activities and hires we project.

The School of Dental Medicine: A Framework for Quality

Raymond J. Fonseca, Dean

Since its founding 118 years ago, the School of Dental Medicine has occupied a position as a premier institution in which dentistry is taught in a scientific environment, as a specialty of medicine, and under the multidisciplinary umbrella of the University of Pennsylvania. The School has historically evaluated its dental education processes on a continuous basis and redefined them to prepare its graduates to be leaders in dental practice, teaching, and research. It has assiduously pushed the envelope of traditional educational theory and application and pioneered new approaches to training the dental professional. Significant and oftentimes groundbreaking research in basic science and clinical areas has been a trademark of the institution and a foundation for its educational programs.

This drive to establish quality programs has helped to stabilize the School's place among the top dental schools in the United States. Quality initiatives must be vigorously continued to ensure the School of Dental Medicine's standing as an exceptional institution into the 21st century. The School's Strategic Plan, *A Framework for Quality*, was created to this end. Although *A Framework for Quality* represents the School's third iteration of its strategic plan in the past seven years, it is by no means the culmination of SDM's planning process, as efforts to monitor, evaluate, and develop new initiatives are continuous.

Goals

The School of Dental Medicine currently enjoys a strong position. It is considered to be the nation's fifth-ranking dental school. The School has a high-quality faculty with a proven ability to attract external funding. Its students are among the most highly qualified in the nation. SDM stands out among its peers for its innovative DMD curriculum and its pioneering use of technology in educational programs. Also among the School's strengths is its well-informed, proud, and responsive alumni body.

Within the context of its present strengths and its historic position as a premier institution of education, research and patient care, and as a part of the planning process that led to the articulation of *A Framework for Quality*, the School envisions that, by the year 2000, it will:

- Rank among the top five dental schools in the United States
- Continue to attract top students
- Remain among the top three dental schools in the nation for NIH funding received per standing faculty member
- Become the recognized international center for dental education and research
- Increase its role as a provider of oral health care services to residents of the Delaware Valley, with a focus on underserved dental populations

Strategies

Although the School of Dental Medicine currently enjoys a favorable position, achieving its goals for the year 2000 depends on the School's ability to respond to changing circumstances and to recognize and pursue new opportunities. Vulnerabilities are also present in the form of a changing health care market and the high cost per student associated with dental education. In recognition of these challenges, the School has been proactive in developing strategies to assure progress toward its goals. The following are key strategies that will be implemented:

- Increase the School's financial aid budget by \$1.25 million over the next five years (\$250,000 per year).
- In conjunction with the health system, develop education and practice facilities at remote sites. Three sites are now either established or in operation, and this number will increase to 7 to 9 sites over the period of FY 1997 to FY 2000.
- By FY 2000, adjust the composition of the faculty by increasing the size of the standing faculty.
- Continue development of the School's infrastructure to support new and continuing research initiatives by construction of new facilities such as the planned Gateway Building, renovation of existing facilities, and the purchase of equipment.
- Continue to develop applications of information technology in dental education.
- By fiscal year 2000, have in place an operational, Internet-accessible, lifelong learning program that facilitates the School's continuing

involvement with its alumni.

- Continue to develop SDM's virtual classroom.
- Continue international outreach in education and research.
- Construct new clinical facilities to enable the School to better serve medically and dentally underserved patients in West Philadelphia and the Delaware Valley, including patients with compromised medical conditions and those with infectious diseases.

Outcome Measures

The above strategies are intended to advance the School's goals by producing the following outcomes:

- Increasing the total financial aid that is available will allow the School to double the number of Deans and Minority Scholars, thereby strengthening the School's efforts in attracting students of the highest caliber, including those from under-represented minority groups. The success of this effort would be indicated by an increase in the mean GPA of students who are accepted to SDM, a decrease in the applicant-to-admit ratio, and an increase of admit-to-matriculant ratio, as well as an increase in the number of minority matriculants.

- The strategy to develop remote practice sites is linked to virtually all of the School's goals. By providing improved access to patients for faculty practice activities, this initiative will enhance career development opportunity for junior faculty as well as enhanced student education opportunities. The remote practices will also serve as sites for future health services research, and they will expand opportunities for interdisciplinary education involving other health professions students. In addition, the remote practice sites may enhance revenue streams to support other programs and improve access to oral health care services for dentally underserved groups. Although outcome measures will become more specific as the network of remote practices develops, at present outcomes measures can be articulated primarily in terms of the educational effect of the practices in providing increased patient access and an additional revenue stream.

- Increasing the number of standing faculty is expected to enhance SDM's position by yielding increased research support from NIH and other federal agencies, corporations, and foundations and providing new research opportunities for DMD and Division of Advanced Dental Education students. An annual increase in research funding of 2 percent will be an indicator of the success of this initiative.

- The School's investment in the development of lifelong learning programs will help to maintain SDM's position at the forefront of dental education by establishing the role of the School in the ongoing professional education of its alumni. While such an outcome cannot be measured directly, success of this initiative will also be reflected in its ability to provide new revenue to support other programs.

- Expanded international outreach efforts are intended to increase participation in student externships abroad and to increase international faculty exchanges, as well as collaborative research activities. By enhancing the School's research environment and overall reputation, such efforts should have a positive impact on the School's ability to attract the most highly qualified faculty and students; these outcomes, however, would be difficult to measure in specific relation to international activities.

- The success of the School's Gateway Building clinic will be reflected largely in its contribution to increasing the School's competitiveness in attracting top students and faculty; its role in attracting increased funding, particularly for clinical research; and the opportunities that it will present for enhancing the career growth of junior faculty. Measurable outcomes will include an increase in the number of patients served by SDM and an increase in individual, foundation, and corporate giving related to patient care activities.

Resource Requirements

Achieving successful outcomes in the initiatives outlined above will require the School to undertake strategic efforts to acquire new resources. A capital campaign will provide support for the Gateway Building. In addition, a federal grant has been obtained for this project, and a low-interest loan will be sought. Other initiatives will be funded through a capital campaign, new revenue streams from the School's lifelong learning program and remote practices, and incremental research dollars.

The Graduate School of Education: Summary of the Strategic Plan

Susan H. Fuhrman, Dean

The mission of the Graduate School of Education is to provide leadership both nationally and internationally in the preparation of education professionals and in research designed to enhance professional practice and student learning.

— *Mission Statement*
Graduate School of Education

The year 2001, once the stuff of science fiction, is almost upon us. One thing can be said with confidence about the new millennium: it won't be business as usual...particularly for the nation's schools of education. As social, political, economic, scientific, and technological forces reshape the world and the workplace, professionals and the public alike will be looking for answers to the *how, what, when, and where* of learning in the wired/global society of the 21st century.

The Graduate School of Education intends to provide these answers.

GSE is unique among the nation's schools of education for our hands-on, interactive model of theory, research, and practice; our leadership in urban and international education; our preeminence in research and evaluation methodology; the reputation of our professional programs; our renowned national research centers; and our cross-disciplinary collaborations.

In the Strategic Plan summarized below, we indicate how GSE intends to ensure its stature and status in the coming century. What will not change is our commitment to doing what we do best: improving education through meaningful inquiry and innovative practice. What will change is how we go about our business of doing what we do best.

Our goal is to make the Graduate School of Education — already ranked among the top in the nation — *the* leading school of education in the coming century.

To ensure that GSE programs are in the top-tier, we will concentrate our research and practice in two areas that have enormous import for the coming century: urban education and international education. These are fields in which GSE already has an impressive advantage. In urban education, we have the leverage of our many research, training and improvement partnerships with the Philadelphia School District and our outstanding professional development programs for urban educators. In international education, we have our renowned TESOL program, a Six-Nation Research Project focused on education and economic development, and the International Literacy Institute cosponsored by UNESCO.

We will continue to build on our successful research enterprise which, in FY 1996, attracted more than \$25 million in new awards—a stunning achievement, especially for a school as small as ours.

To capitalize on these proven strengths, we will:

- Integrate the activities of our many distinguished research centers into our academic, professional, and continuing-education programs by locating all centers and classrooms in a new/renovated building;
- Use urban/international educational themes to interconnect our research, education, and service activities;
- Promote these activities in ways that enhance the School's reputation and identity among peer institutions worldwide, and attract public and international education leaders, and potential students;
- Convene national professional conferences on current issues in the field, expand summer leadership institutes for continuing professional education, and expand our summer course offerings to accommodate students seeking intensive, degree-oriented studies.
- Identify new revenue streams, particularly from the corporate and private sector, to solidify and advance our leadership in every academic/professional/continuing-education program, every center, every field of research in which we are involved; and
- Integrate technologies into all our programs to enhance the ways in which teachers teach and students learn—a model for the 21st century.

As measures of our success, we expect to achieve the following outcomes:

- A ranking in the top ten as measured by *U.S. News & World Report* Survey of Graduate Schools of Education and inclusion in other citations of the nation's best-known schools of education;
- A modern facility that consolidates our instructional and research space into one location and incorporates state-of-the-art technology;
- An annual 5% increase in the number of research proposals submitted by faculty;
- An increase from 66% to 75% over the next three years in the number of faculty involved in sponsored research; and
- A 100% increase by 1999 in the number of visiting international scholars.
- Established reputation as a leader in using technology to analyze teaching and learning.

To ensure that GSE students and faculty are in the top-tier, we will continue to give highest priority to the recruitment and retention of outstanding students and faculty.

To compete successfully for Ph.D. students who possess outstanding academic qualifications, demonstrate high motivation and preparation to pursue research on education, and have interests and career goals that are well matched to the strengths of the faculty, we will:

- Increase selectivity in admission of Ph.D. applicants;
- Reduce the annual new Ph.D. cohort to a 1:1 faculty/student ratio;
- Provide, in the long term, full funding to all entering full-time Ph.D. students; and
- Include research assistantships, which GSE will partially match, in research proposals submitted for external funding.

To compete successfully for the ablest master's students, particularly those with a background and interest in urban education, we will:

- Expand options for professional degree seekers to pursue specialized interests within core masters' programs;
- Further develop intensive field-based curricula and cross-school programs;
- Engage masters' students in activities of GSE research centers; and
- Provide increased "last dollar" aid to make GSE's tuition more competitive with that of other institutions.

To assure that GSE faculty will continue to be outstanding and productive in terms of teaching, scholarly publications and grantsmanship, we will:

- Bring together all GSE faculty in a new/renovated facility as a means of promoting intellectual synergies among researchers, educators, and practitioners that will result in new research and funding opportunities;
- Encourage intra- and inter-school faculty collaborations that explore interconnections between education and other fields of learning;
- Improve communication at GSE, for example, by seminars that highlight current faculty and student research;
- Conduct national searches for scholars who will advance our instructional program, enhance our external research support, and heighten GSE's identity as a leader in urban and international education; and
- Facilitate the integration of technology in teaching and professional preparation of educators.

As measures of our success, we expect to achieve the following outcomes:

- A GSE facility capable of supporting the intellectual and technological synergism that will be the hallmark of a truly distinguished 21st century school of education;
- A 25% reduction in size of the Ph.D. program, balanced by an increase of 10% in the Ed.D. and MS. Ed. programs over the next three years;

- Continued improvement in student characteristics as measured by academic qualifications of incoming Ph.D. students and yield as measured by a 1% annual increase in number of accepted students who matriculate;
- Increased student diversity, including an increase in the proportion of Ph.D. applications from outside the mid-Atlantic region from 58% to 65%;
- Student-aid increases of 1-2% per year above the tuition rate increase;
- Increase in the number of fully-funded full-time Ph.D.'s from 46% to 100% over time;
- Increase in the number of standing faculty to meet projected increases in master's enrollment and reduction in faculty/Ph.D. student ratio; and
- A 100% increase in resources for faculty development including chairs, research funds, and seed money over the next 10 years.

Key to GSE's leadership is a 21st-century infrastructure, as we have previously noted. A building that brings together our many off-site research centers and integrates them into the life of the School. A "smart" building that supports today's—and tomorrow's—technologies. A building where day-to-day interactions spark new ideas and speed delivery of new knowledge to the profession.

To provide the type of interactive environment that is, in itself, a metaphor for GSE's interactive model of theory, research, and practice, we will:

- Unite GSE's research centers, classrooms, and offices in a single new/renovated facility central to campus;
- Incorporate technologies that prepare students to teach in the classrooms of tomorrow and enable faculty to perform cutting-edge research;
- Create an academic milieu where faculty and students alike can engage in a culture of discovery; and
- Maintain a highly visible campus presence that is both sign and symbol of GSE's status as the leading school of education in the nation.

As measures of our success, we expect to achieve the following

outcomes:

- Identification of site and design for new/renovated facility contingent upon approval by University Trustees and GSE Overseers (Years 1 & 2); and
- Identification of naming opportunities and solicitation of funds for new/renovated facility (Years 2-5).

Meeting the costs of our plan to make GSE the top-ranked school of education in the nation presents a tremendous challenge. On the one hand, GSE, like other education schools, has few affluent alumni. On the other hand, our extremely productive research record; our fiscal health; and our important contributions to educational improvement in the city, region, nation, and increasingly, the world increase the School's appeal as a worthy investment.

The primary development needs that we must address are:

- Full-funding for full-time Ph.D. students;
- Increased aid for Ed.D. students and "last-dollar" support for masters' students;
- Increased resources to attract and hold distinguished faculty; and
- A central facility to house all GSE faculty, students, and staff.

To meet these needs, we will:

- Broaden our donor base and identify prospects;
- Diversify and increase our revenue sources;
- Develop new applied research relationships with city and state agencies;
- Attract corporate support for the Six-Nation and other international projects; and
- Secure venture capital to develop revenue-producing institutes and international programs.

As measures of our success, we expect to:

- Increase our donor base by 100 new individuals a year;
- Increase annual giving by 5-10% a year;
- Double endowment from \$10 million to \$20 million in ten years; and
- Double the number of endowed chairs.

The Strategic Plan of the Graduate School Of Fine Arts

Gary A. Hack, Dean

The Graduate School of Fine Arts (GSFA) is dedicated to *improving the quality of life through the design of artworks, buildings, landscapes and cities*. We use "design" in the broad sense to include both creating stimulating objects and places, and influencing the social and political processes that have a bearing on the built and natural world. Our responsibility serves concerns which are at once practical and aesthetic, honoring the precepts of Benjamin Franklin. GSFA programs in fine arts, architecture, landscape architecture, planning, historic preservation and urban design address the challenges of conserving the past as well as shaping the future; of educating the next generation of leaders in these fields while contributing to ongoing theory and practice. The design arts are the common intellectual core of the School, but equally important are the understandings drawn from technologists, historians, and social scientists in the School and the university.

The GSFA is a professional school which *prepares individuals for practice* through recognized masters degrees in each of its disciplines. This educational mission requires a faculty of theoreticians and practitioners. Each of the School's disciplines is in the midst of reinventing itself, and the GSFA intends to play an important role in defining the educational needs for future practice. The GSFA also aims to *increase the general understanding* of art, design and the social processes by which environments are created through undergraduate education programs, public events and exhibitions, and dialogue about emerging issues. And it *develops and transmits new knowledge* through advanced certificate

programs, doctoral studies and continuing education programs.

Three common themes unite the GSFA's diverse programs and faculty:

The Unity of Theory and Practice: New ideas about buildings, or landscapes or cities or works of art emerge through engaging real projects, as well as through theoretical projections. Progress requires a two way dialogue: making sense of practical experience, and using projects as the testing ground of new constructs. By simulating the world in carefully structured studio experiences, and creating opportunities for field projects by faculty and students, the GSFA can powerfully link theory and practice.

The Centrality of Design: Design involves the process of making things as well as imagining them. It is a process, and often a social process, rather than a singular skill. It is the fundamental skill of each of the fields of the GSFA, and is as essential to creativity and communication as are writing, computation, and verbalization. Design in the GSFA, as in the world, involves collaboration across disciplines.

Urbanism: The social project of designing the urban and suburban environment involves all the fields of the GSFA. Penn has an inescapable commitment to Philadelphia, and has identified "the urban agenda" as one of the university's six pillars of excellence. The urban context of the School can be a major force in shaping the GSFA's character and programs.

With a renewed urban perspective, strengthened commitment to the centrality of design, and dedication to new ways of linking theory and practice, the Graduate School of Fine Arts can forge a special identity

which distinguishes Penn's programs from its counterparts.

Goals of the Strategic Plan

Educational Excellence

Undergraduate education

Make Penn the undergraduate school of choice for those interested in design of the environment and fine arts in the context of a liberal education.

Provide opportunities to develop visual literacy for all undergraduates.

Ensure that a broad cross section of undergraduates are exposed to urban issues and methods for addressing urban problems.

Graduate Education

Ensure that professional programs in architecture, landscape architecture, planning, historic preservation, fine arts and urban design are recognized as among the leaders of their fields, at least in the top 10.

Take maximum advantage of the breadth of fields in the GSFA.

Gain strength and uniqueness from the presence elsewhere at Penn of strong programs in real estate, history of art and architecture, urban studies and engineering.

Research and Practice

Expand research in fields where the GSFA has a comparative advantage—historic preservation, large scale design and planning, GIS applied to urban and environmental issues, architectural history and theory.

Increase high impact, high visibility field projects, particularly on urban issues in Philadelphia.

Provide mechanism for faculty to engage in practice without leaving the university.

Educational Support

Create facilities and spaces which are at least equivalent to those found in practice.

Provide environments for collaboration, including digital, audio and visual assists.

Increase the public visibility of GSFA activities among alums, influential outside constituencies, potential donors, and peer institutions.

Expand development capacity, and improve administrative efficiencies.

Proposed Initiatives

Faculty Composition

A new balance needs to be struck between scholars and practitioners in the School, if we are to tie more effectively theory and practice. Practicing professionals will be added to the permanent faculty in each of the fields through the creation of a new rank, Professors in Practice. New chairs will be sought to allow the most distinguished architects, planners, landscape architects and artists to join the faculty as visitors or rotating faculty members. Multi-year agreements will be reached with practitioner teachers to allow better planning of educational offerings, and increase the incentive for practitioners to become engaged in educational activities outside the classroom and studio. Over time, the faculty of the GSFA might evolve to become equal numbers of scholar educators, practitioner educators and visiting critics and artists.

Practice Foundation

Permanent faculty need greater opportunities to practice, and to use practice as a medium for clinical education. There is a need for space and organizational infrastructure for such practice, which will often involve small projects. The GSFA proposes to create a practice foundation as the mechanism for carrying out practice within the university. The foundation will encourage faculty and student collaboration, will provide a continuing source of financial support, will encourage community service projects, and will emphasize innovative projects. The results of projects will be disseminated to the widest possible audience.

Renewal of City and Regional Planning Program

A vigorous program in planning is an essential component of the GSFA, and is critical to addressing Penn's urban agenda. Beginning with two new senior appointments in FY1998, the department's strength will be expanded; junior appointments may follow in subsequent years. At the same time, the curriculum will be revised, with an eye to focusing on a smaller number of critical fields, and greater synergy with other GSFA fields.

Revival of Urban Design Program

The urban design program, once the jewel in the GSFA crown, will be revived as a cross disciplinary certificate program, linking all of the School's fields. All faculty and students in the program will be affiliated with one of the current departments in the School. The agenda of the program will be to create new ideas for the form of urban and suburban environments, and to educate professionals with the skills in design and collaboration essential to see them realized.

Cross Disciplinary Work

The GSFA will capitalize on its disciplinary breadth by expanding the range of cross disciplinary studios between departments, and the number of faculty who have secondary appointments in other departments in the School. In addition, several fields will be singled out for new initiatives which cross disciplinary lines, including public art, environmental restoration, and visualization methods.

Technological Advancement

The School needs to make the transition rapidly to digital technology which is becoming the preferred medium for most design and construction. This will require the networking and refurbishing of all studio spaces, the creation of new forms of review and display spaces, and new educational methods. It also offers new fields of work, including computer based graphic design, geographic indicators of urban change, concurrent design and engineering, and remote collaboration. The GSFA intends to become a leader in emerging technologies for design and planning.

Expanded Commitment to Undergraduate Education

Undergraduate education will receive increased emphasis, with a customary expectation that all permanent faculty teach undergraduate courses. We will expand our capacity to provide visual and environmental sensibilities to the majority of all Penn undergraduates. At the same time, expanded submatriculation opportunities will allow for a greater flow from our undergraduate majors to our professional programs, and will advantage those who move to other schools for graduate education.

Upgraded Facilities

The second phase of Addams Hall needs planning in order to complete the rebuilding of Fine Arts spaces, and to allow the removal of the temporary Blauhaus. Meyerson Hall, now over 25 years old, needs to be adapted to the demands of the new educational and practice technologies. The Architectural Archives will be expanded and developed into a full scale center for the study of architecture and design.

Outcome Measurements and Assessments

Our efforts will be successful if:

- Comparative rankings of our educational programs improve, and all are within the top 10
- Applications increase, and the yield of those admitted increases to at least 40%, in all programs
- We attract an increasing proportion of the top 20 candidates we admit in each field
- Our faculty win an increasing number of awards for scholarship, practice projects, and competitions, and receive mention in citations and published reviews of their work.
- Our faculty and students become increasingly diverse
- The fraction of our revenues from tuition declines to under 55%
- The fraction of revenues devoted to administrative functions declines to less than 10%
- Our subvention declines to less than 25%
- Our endowment increases to more than \$40 million.

Resource Requirements

To make this possible we will need to attract new resources for:

Facilities: \$18 million for new or upgraded facilities—renovating Addams Hall, constructing Phase II of the Fine Arts facilities, expansion of the Architectural Archives, and adapting Meyerson Hall for computer based education.

Programs: \$15 million for new endowed chairs in landscape architecture, planning, fine arts and computation, endowing the practice foundation and additional fellowship endowment.

The Law School's Strategic Plan

Colin S. Diver, Dean

1. Statement of General Goals: the Leadership Law School

The goal of the Law School's strategic plan is to become, and to be widely recognized as, the "leadership law school." We use the term "leadership" in both of its senses: innovation and influence. We aspire to be the leader in the study and teaching of leadership through law.

In the coming century, all lawyers will be called upon to integrate the findings of an ever wider array of human knowledge, change specialties and update substantive knowledge more frequently, and move readily across professional boundaries. The leaders of the legal profession are those whose actions will add lasting value to the society by: 1) finding creative, positive-sum solutions to conflicts; 2) designing and managing productive institutions and mutually beneficial relationships; and 3) celebrating, embracing, and harnessing the energy of our demographic and cultural diversity. The goal of the Law School's strategic plan is to become the national leader in building the intellectual capital and training the human capital for this vision of "lawyer-leadership" in the 21st Century.

Among the elite, research-oriented American law schools, Penn has long been known for its strengths in such traditional doctrinal fields as administrative law, civil procedure, commercial law, criminal law, and labor law; its interdisciplinary research in fields such as economics, history, and philosophy; its contributions to law reform through its relationship with organizations like the American Law Institute; and its commitment to integrating theory and practice in such experiential learning contexts as clinical and public service programs.

To achieve its aspiration to become the leadership law school, we intend to build a unique "integrative curriculum." Unlike almost all of our competitors in the law school world, which seek to "go it alone," Penn Law is committed to taking full advantage of the University's extraordinary resources in the cognate disciplines of economics, history, philosophy, political science, and sociology, and the sister professions of business, communications, education, engineering, medicine, and social work. Creative and selective partnerships with those resources will enable Penn Law to create a national model for the study and teaching of leadership through law.

2. Proposed Initiatives: The Integrative Curriculum

Our strategic plan calls for continued strengthening of the Law School's outstanding foundation of legal doctrine, theory, and skill. In particular, the plan depends on implementation of the following specific initiatives:

a. Law and business: We aspire to build a world-class program in law and business, one that will make Penn an international center for the study and teaching of the role of law and legal professionals in the design and management of institutions. Initiatives include: strengthening the law faculty in the field of business and finance; expanding clinical programs in transaction planning; creating concentrations within the J.D. degree program in law and business, with emphasis on entrepreneurship, finance, and international business, with participation by the Wharton School; establishing a six-year B.S.-J.D. program with Wharton; strengthening the J.D.-M.B.A. program; and increasing collaborative research and teaching with the Wharton faculty. This initiative will be an integral part of the University's academic priority in the field of "Management, Leadership, and Organizations."

b. Law and communications: The Law School seeks to develop international distinction in the field of law and communications and information science. Initiatives include: strengthening the standing faculty in the fields of intellectual property and computer law; exploring the creation of a clinical program in intellectual property; developing a concentration within the J.D. degree program on law and communications

with participation by the Annenberg and Engineering Schools; exploring a six-year B.S.-J.D. degree program with the Engineering School as well as collaboration at the masters degree level with Engineering and Annenberg; and increasing faculty collaborations with those schools. This initiative will promote the University's plan to build distinction in "Information Science, Technology and Society."

c. Law and medicine: As a component of the first of the University's six academic priorities ("Life Science, Technology, and Policy"), we aspire to develop the foremost interdisciplinary program in law and medicine. Initiatives include: appointing one or two faculty with expertise in health law; building a concentration in Health Law within the J.D. degree program in collaboration with the Medical School and other academic departments; research collaborations with the Leonard Davis Institute, the Medical School, and other schools and departments; exploration of a graduate program in health law.

d. Constitutional democracy and social structure: The Law School seeks to strengthen and expand its existing programs of teaching and research in constitutional law, civil rights and liberties, administrative law, and urban law. Proposed initiatives include: strengthening law faculty competence in political theory and empirical social sciences; development of a joint Law School-SAS undergraduate minor in the field of law and social structure; establishment of a new research journal in constitutional law, operated in collaboration with cognate departments at Penn and the National Constitution Center; and establishment of J.D.-Ph.D. programs with the departments of Sociology and Political Science. In this way, the Law School will contribute directly to the development of Penn's distinction in "American and Comparative Democratic and Legal Institutions" and "The Urban Agenda."

3. Outcome Measurements and Assessments

The only true measure of success of any educational institution is the quality and quantity of the intellectual capital and human capital that it produces. In particular, the Law School's strategic plan calls for the Law School to achieve national leadership in generating and transmitting knowledge about leadership in and through the law.

We will use the following indicators to provide evidence of progress toward this goal:

a. Student selectivity: improved success rate against our principal competitors as measured by admission "overlap reports"; increase (relative to peers) in mean and median LSATs and GPAs of entering class; improved yield (admit to matriculant ratio) for all applicants and particularly minority applicants; increased number of matriculants with demonstrated interest in and commitment to interprofessional study.

b. Curriculum: expansion of "interprofessional" electives, with an increasing percentage taught by standing faculty; expansion of clinical opportunities, especially in nonlitigation dispute resolution and transaction planning; increased evidence of student selection of concentrations within the J.D. degree program; increased cross-registration between the Law School and other schools (with an improved balance between inflow and outflow).

c. Research: increase in quantity and improvement in quality of faculty research publications, in general, and interdisciplinary and interprofessional research, in particular; increased grant and contract support for research; increased percentage of students writing for research-based law journals.

d. Graduates: increase in the numbers and prominence of graduates in "leadership" positions such as managing partners of law firms, judges on the nation's leading courts (and their law clerks), founders of businesses, corporate managers, leaders in education, government, and other not-for-profit fields.

(continued)

STRATEGIC PLANS OF THE SCHOOLS

4. Resource Requirements

Full implementation of the strategic plan would require at least the following incremental resources:

a. *Faculty*: to expand the standing faculty, with new hiring concentrated in substantive and disciplinary areas that will support the strategic initiatives identified above, and with an emphasis on increasing the demographic, cultural, and intellectual diversity of the faculty. In this connection, the Law School aspires to increase the number of endowed professorships by eight in order to attract and retain world-class scholars.

b. *Research*: to support expanded interprofessional research: \$800,000 per year.

c. *Program development*: to support development of concentrations and other interprofessional courses: \$200,000 per year.

d. *Financial aid*: for general competitively-mandated increase in need-based awards, and for a new program of merit awards to attract a select group of outstanding "leadership" candidates: \$1.1 million per year.

The incremental resources necessary to fund these resource expansions would come from the following sources (in each case, showing increments above the current base):

a. *Endowment income*: increase of \$2.1 million per year, requiring a

total increase in endowment of \$53 million;

b. *Gifts for current use*: \$500,000;

c. *Grants and contracts*: \$500,000;

d. *Other (tuition from new graduate programs, income from continuing legal education, fee for services, etc.)*: \$400,000.

It is assumed that it will take five years for revenues to increase by these amounts. Therefore the resource requirements shown above represent the increments above current baseline in year five.

* * *

The premise of the Law School's strategic plan is that the study of law must become allied with the study of leadership, and that Penn is uniquely positioned to accomplish this alliance through a partnership among its professional schools and academic departments. In 1790, with the appointment of James Wilson as its first Professor of Law, Penn assumed leadership by integrating the study of law into the basic liberal education of the new Republic's future leaders. Two centuries later, Penn can again take the lead by making the study of law central to the education of a new generation of leaders—the "interprofessional professionals" of the 21st Century.

The School of Medicine's Long-Range Strategic Plan

William N. Kelley, Dean

I. Statement of General Goals

The University of Pennsylvania Medical Center—comprised of the School of Medicine and the Hospital of the University of Pennsylvania—has played a special role in the history of medicine in America. The School of Medicine, founded in 1765, is the nation's first school of medicine and the Hospital of the University of Pennsylvania is the nation's first hospital built by a medical school. In 1993, the University of Pennsylvania Health System was formed as the first fully integrated academic health system in the United States. Today, we are ranked among the top five academic health systems in the country by those indicators which assess academic excellence.

As an institution, we are students and teachers, scientists and scholars, physicians and other health care professionals, administrators, and staff dedicated to:

- Developing leaders in medicine and science;
- Expanding the frontiers of medicine through new discoveries in the health sciences and in the understanding, detection, treatment, and prevention of human disease; and
- Caring for our patients with respect and compassion in a setting where patients benefit from the application of the latest medical and scientific advances, delivered with skill, integrity, and constant concern for their comfort and well-being.

The School of Medicine is committed to achieving and maintaining the highest standards of academic excellence related to our core missions of education, research, and patient care.

Meeting this formidable challenge in an era characterized by rapid and unsettling changes in the health care environment and increasing uncertainties related to our traditional sources of financial support—research grants and clinical revenues—requires a steady yet aggressive commitment to people, programs, facilities, and resources. It also demands that we create and maintain an organizational structure that optimizes our capacity to succeed as individuals and as an institution. Simply put, all of our academic initiatives for the future are predicated on the following:

1. Recruitment and retention of outstanding medical and graduate students, residents and fellows, post-doctoral trainees, faculty, and staff;
2. Establishment and nurture of multi-disciplinary programs across all of our education, research, and patient care programs;
3. Construction of new and renovation of existing facilities to provide

the educational, research, and patient care facilities required to succeed;

4. Fiscal responsibility characterized by appropriate stewardship and enhancement of traditional revenue sources, development of new revenue sources, and containment of expenses; and

5. Continued implementation of the University of Pennsylvania Health System to ensure future access to patients for education and research.

Our long-range strategic plan begins with a strong foundation.

- We ranked fifth nationally in FY1995 in the level of research support obtained from the National Institutes of Health (FY1995 is the most recent year for which data are available)—indeed, from FY1991 through FY1995, our 9.3 percent annual growth rate was first among the top ten institutions ranked by the NIH and from 1990 to 1995, the School achieved the highest absolute increase in NIH funds among all schools of medicine in the nation; and

- The most recent *U.S. News and World Report* ranking of schools of medicine ranked us tied for sixth in the nation.

The recognition we have earned as an institution is due to our outstanding faculty and to their ability to move across disciplines, departments, and schools in their creative work. School faculty are world-renowned for their achievements across the broad range of biomedical, clinical, and health service sciences and the School encourages faculty to pursue individual projects, moving in those directions their own intellect and vision take them. As an institution, the October 1990 report of the University-wide Life Sciences Committee identified eight multi-disciplinary areas of research which we particularly emphasize: Human Gene Therapy, Retrovirology, Biology of Cancer, Neuroscience, Aging, Developmental Biology, Structural Biology, and Molecular Genetics and Genome Therapy. Each of these areas has received, and will continue to receive, institutional support in an effort to maintain the world-class status of those programs already so recognized and to enhance those programs which have not yet attained top tier status.

The School of Medicine will also continue to foster the growth of multi-disciplinary programs and initiatives which involve Schools and Departments throughout the entire University. Our most successful approach for accomplishing this occurs through the Schools's sixteen inter-School and multi-disciplinary Centers and Institutes which bridge across all academic units of the University. A few selected Centers and Institutes amply demonstrate the cross-University interactions—Center for Bioet-

hics (Annenberg and Arts and Sciences); David Mahoney Institute of Neurological Sciences (Arts and Sciences); Leonard Davis Institute (Wharton, Nursing, Dental Medicine); Institute for Human Gene Therapy (Wistar Institute and Veterinary Medicine); and Institute for Medicine and Engineering (Engineering and Applied Science). In addition, joint multidisciplinary programs with the Departments of Chemistry and Biology in Arts and Sciences, proposed new and expanded collaborations with the School of Engineering and Applied Science, and the Technology Transfer Pilot Program, done jointly with Wharton, are a few of the many other examples illustrating Medical Center interactions across campus.

II. Proposed Key Institutional Initiatives

The School of Medicine will continue to encourage faculty to achieve their individual academic goals and objectives and will seek to create the environment to optimize their opportunities for success. Within this overall context, the School has adopted three key *institutional* initiatives which, we believe, will place us among the forefront of all academic medical centers nationwide: 1) Curriculum 2000; 2) Translational Research; and 3) Disease Management. By design, each relates to one of our three core academic missions—education, research, and patient care.

1. Curriculum 2000—Curriculum 2000 is a bold, comprehensive revision of the School's medical education curriculum designed to prepare our students to be outstanding clinicians and physician-scientists during their entire careers, stretching deep into the twenty-first century. In our view, the new curriculum, which will be implemented next fall, will stand as a pivotal point in medical education nationally. It is founded on the following principles:

- Medical education should be a continuum;
- Basic sciences and clinical medicine should be integrated throughout the curriculum;
- The curriculum should maintain maximum flexibility — indeed, building on flexibility for which we are already known;
- Education should be self-directed so that students gain knowledge of the process of life-long learning and apply it in keeping current throughout their careers.

Curriculum 2000 will emphasize three themes:

1. The science of medicine;
2. The art and technology of medicine; and
3. Professionalism and humanism.

It will consist of five Modules. *Module One* involves core principles. There will be a reduction in lecture time so that students will participate in seminars or work with software packages either in small groups or individually. Material will be presented more efficiently and will be better integrated. Basic science and clinical decision-making will be linked in the four year experience. *Module Two* consists of blocks of integrative systems and diseases. In *Module Three*—the art and technology of medicine—students will gravitate toward experiences they wish to pursue, either community health projects or research investigations. The *Fourth and Fifth Modules* involve core clerkships, electives and other scholarly pursuits. In addition, each Module will incorporate an entire bioethics component integrated within the context of that Module.

Curriculum 2000 will help our students become more active, self-directed learners. Basic science will be a regular presence in their four-year process as they gain clinical skills. Students will make full use of the University of Pennsylvania Health System; for instance, our primary-care network—Clinical Care Associates—will provide ambulatory care sites for clerkships. Students also will learn how to practice within the parameters of a comprehensive health system, which surely will provide the major structure for physician-patient interchange into the next century, and they will learn to use effectively state-of-the art telecommunications vehicles and information systems. Our students will be educated to treat acute disease—health maintenance and disease prevention and management will also be built into Curriculum 2000.

As we implement Curriculum 2000, we will continue to follow and to build on the precepts of the Flexner Report of 1910 which has informed medical education for the twentieth century. These precepts, if anything, are even more relevant today; namely, the scientific basis of the practice of medicine and the need for hands-on, real experience in training. Curriculum 2000, however, will extend our ability to connect students to

the tremendous explosion of science, to the full utilization of modern information systems, and to the social changes in what is expected of physicians. It will encourage the humanism that students bring with them to medical school, and that humanism will be actively fostered and factored into the professionalism which is the core of their education. We expect the result to be the crowning jewel of American medical education.

2. Translational Research—Closely tied to the University's "Life Science, Technology, and Policy" academic priority, the School of Medicine's translational research program is an innovative approach to science and medicine focused ultimately on bringing the advances of the laboratory to the direct benefit of patients. Our goal is to facilitate the translation of basic science discoveries to the clinic — to accelerate the availability of these discoveries to industry and, in turn, to the improvement of health.

Over the last decade, there has been an exponential expansion in fundamental discoveries resulting from the maturation of the disciplines of cell and molecular biology. As the Human Genome Project becomes a reality in the next five years, it will be within our grasp to understand the molecular basis of every inherited disease and to rapidly gain insight into how our genes influence the manifestations of a wide range of common disorders that cannot be ascribed to a single gene defect, as well as disorders that are usually ascribed to environmental or acquired factors. Medical schools have an obligation to society to translate these new discoveries into new therapies. The translation of basic discoveries into new therapies is what distinguishes the academic health system from community-based health systems. The stronger the translational medicine program, the more successful the academic health system will be in this rapidly evolving health care market.

The current system in schools of medicine nationwide is not organized to fully realize these obligations and opportunities, but with our combination of strong basic research, a large number of cross-cutting multidisciplinary centers and institutes, superb clinicians and educators across a broad range of clinical disciplines, world-renowned health services research, a highly organized network of hospitals, physicians, and home care throughout the region, as well as effective technology transfer capabilities, Penn is in a unique position to facilitate translational research and overcome the numerous disincentives inherent to academic medical centers that make it difficult to bring together these bodies of expertise in translating fundamental discoveries into new therapies.

The program in translational research is intended to accomplish just this. The overall concept is to enhance the number of potentially important basic advances which are translated into Phase I clinical studies within the institution. At that stage, the program would facilitate the transfer of these primary technologies or drugs into the commercial sector for further development. The program in Translational Research will provide the leadership and direction for research teams composed of basic and clinical investigators targeted on developing therapeutic strategies to treat human diseases. This program will take advantage of fundamental discoveries made by the faculty to develop these new therapeutic strategies and help them to obtain external resources for support as well as to stimulate the necessary collaborations to bring these discoveries through appropriate animal testing to patient trials. The scope of the programs will span new drug discovery to medical devices. Where possible it will take advantage of existing programs engaged in translational research to avoid duplication of resources already committed by the institution. For example, the Institute for Human Gene Therapy already exists as a stellar prototype of a translational research program and, through faculty expertise and core facilities, actively promotes and catalyzes translational research efforts throughout the institution. It would be our expectation that these initiatives should be self-supporting from extramural sources and that some of the service functions might need to be out-sourced in some manner. In addition, it is our expectation that the translational research program has the potential to develop new sources of funding to support the academic mission.

3. Disease Management—Disease Management is a comprehensive, integrated, system-wide approach to patient care which is patient-focused, emphasizes wellness and prevention, ensures the coordination of clinical resources to the benefit of the patient, serves to contain cost while improving quality, and deals with the entire life cycle of disease. The

STRATEGIC PLANS OF THE SCHOOLS

Disease Management continuum incorporates emphasis on prevention, management of illness, and recovery. Its ultimate objective is to provide the best quality care for patients, with high efficiency, resulting in great patient satisfaction. Achieving this will allow the Health System to retain patients, physicians, managed care relationships, and employer relationships.

Penn Health Management, our new initiative in Disease Management, draws upon the entire spectrum of resources within the Health System. It provides the framework for the Health System to re-engineer clinical strategies for Disease Management, with the goal of improving clinical performance and improving methods to assist patient outcomes. Its objectives for managing health care with UPHS are the following:

- To seek and demonstrate improvements in patient outcomes by establishing "Best Practices" to assure the delivery of optimal and efficient health care;
- To foster intensive patient involvement, provider-patient contacts, and case management;
- To focus clinical management strategies on common, costly, complex, and chronic disease;
- To integrate prevention and wellness across the continuum of care;
- To achieve significant improvements in health care by early diagnosis of acute disease; and
- To promote disease recognition and diagnosis.

The University of Pennsylvania Health System, as an integrated academic health system, is the perfect setting for the development and implementation of Disease Management programs. First, our Health System includes all of the components required to offer patients a full continuum of care, critical for implementation of Disease Management protocols - primary, specialty, subspecialty, and quaternary care delivered at sites ranging from patient's homes, physicians' offices, acute care hospitals, rehabilitation facilities, and nursing homes. Second, the large diversified patient population receiving care in the Health System provides a unique opportunity to study outcomes data enabling us to continuously refine Disease Management protocols through research. Third, as an educational institution, we have the opportunity to disseminate what we have learned through implementation of the Disease Management program to our students, trainees, and to physicians in continuing medical education programs. A great challenge here is to grapple with the educational and long-term clinical implications of implementing a Disease Management program, particularly with respect to the future of the ability of physicians to deliver care to patients if they do not have access to the Disease Management program through which they learned medicine. The greatest concern is that physicians will provide care by rote without a complete understanding of why they are taking certain actions. Meeting this challenge may require the establishment of a continuing medical education program and granting graduates of our program continued access to our Disease Management protocols if they leave the Health System.

III. Outcome Measurements and Assessments

The School of Medicine's overarching goal is to achieve "Top 5" status in all nationally recognized measures of our education, research, and clinical programs.

In achieving this overarching goal, we seek to attain the following

targets:

A. Key Initiatives

1. *Curriculum 2000*—Our goal is full implementation of Curriculum 2000 for the medical student class entering in the fall of 1997, with Module One implemented in September and the four additional modules scheduled for implementation in succession.

2. *Translational Research*—in the near term, our goal is to establish an infrastructure to permit the program to be operational in FY1998. When fully running, we anticipate initiating two new projects per year with up to five years per project (though completion of Phase I clinical trial testing).

3. *Disease Management*—in the near term, our are goals to develop the first Disease Management program with pilot implementation by the end of FY1997. Additional Disease Management programs would be developed and implemented in subsequent years.

B. Other Target Objectives

1. *Students and Faculty*: We will continue to attract and retain outstanding students and faculty and to seek broader diversity in the composition of our students and faculty. Another goal is to have an increased number of faculty elected to membership in the most prestigious professional organizations. With respect to faculty numbers, we anticipate an increase in the number of basic science department faculty and less growth in the number of clinical department faculty.

2. *Multi-disciplinary Programs*: We will continue to support and nurture our multi-disciplinary centers and institutes—16 have already been established with reporting relationships to the CEO/Dean and over 30 with reporting relationships to Department Chairs.

3. *Facilities*: We will renovate existing educational facilities to accommodate the needs of Curriculum 2000; continue to renovate research facilities (additional 57,000 square feet by end of FY1997); complete Biomedical Research Building II by early 1999 and Biomedical Research Building III by 2001, thus adding 384,000 gross square feet of new laboratory space. We will also continue the upgrade of patient care facilities in the Hospital, with the Consolidated Patient Services Plan scheduled for completion in July 1997.

4. *Fiscal Responsibility*: We will continue to seek to enhance income from research grants and clinical sources, explore new sources of revenue, and through our on-going cost effectiveness program in HUP and Presbyterian Medical Center seek to contain expenses.

5. *Implementation of Health System*: We will continue to implement the University of Pennsylvania Health System to respond to changes in an uncertain and dynamic health care environment in order to assure continued access to patients for education and research.

IV. Resource Requirements

The School of Medicine's financial needs for faculty and student recruitment and retention and our education, research, and clinical programs are self-contained and will be met through Health System sources, e.g., the \$600 million Development Campaign, clinical practice income, and the Academic Development Fund maintained by contributions from the operating margin of the Hospital of the University of Pennsylvania. In addition, the School will continue to seek new sources of support.

The School of Social Work: Strategic Plan Highlights

Ira M. Schwartz, Dean

The University's greatest potential strength and uniqueness originate with its historic linkage of professional education with the liberal arts and sciences as well as the close physical proximity of the schools on one campus. The traditions and goals of the School of Social Work reflect the broad goals and purposes of the University of Pennsylvania.

Recently, the University developed its *Agenda for Excellence*. The Agenda details the University's goals, objectives, and priorities for the 21st century. It is a bold agenda designed to further Penn's prominence and leadership as one of the world's premier institutions of higher education and research. In keeping with the spirit and intent of the *Agenda for Excellence*, the School of Social Work has committed itself to educating social work practitioners to become competent and effective leaders in a rapidly changing social welfare environment. This means that, in addition to maintaining its long standing commitment to educating professionals to deliver direct services, the School will prepare social workers to practice in an environment characterized by increased emphasis on privatization of services, accountability and performance, managed care, the application of technology to improve service delivery and effectiveness, re-financing of social welfare services, and competition in the social welfare market place.

Embodied in the mission of the School of Social Work are the following goals:

1. to educate social workers for a broad range of professional practice of high quality and competence,
2. to advance knowledge in the field of human services with special focus upon the process of individual and social change,
3. to develop new models of professional education and service delivery, and
4. to foster interdisciplinary research in social work and social welfare.

The pursuit of these interdependent and mutually reinforcing goals is predicated on a common base of professional social work values and ethics, purposes, knowledge and experience. There are also vital secondary obligations that reach beyond these primary goals. Those obligations are to help serve the interests of the total University community, the profession of social work, related disciplines and the larger community.

Among schools of social work, the Penn School has been recognized for its contributions to practice in health and mental health, concerns of the urban family including those focused on aging, child welfare, education, and juvenile justice, race and racism, poverty and more recently, homelessness. Additionally, the School through its faculty and educational programs is recognized as a resource to community groups, agencies and institutions locally, nationally and internationally in confronting the social problems that correspond with our practice foci.

In order to achieve the goals of the School of Social Work a number of initiatives are being implemented. Included among these are:

1. Building faculty strength through the recruitment of outstanding junior and senior scholars whose work supports the mission of the School. The School has already made an important start in the areas of diversity with its recent appointments of underrepresented minority and women appointments,
2. Enhancing the research capacity of the School through decreased faculty loads, the establishment of a Faculty Research Fund, establishment of well targeted "Centers of Excellence" in which there is faculty strength, the development of field based research sites, and increasing the number of externally funded research projects and amount of research funding,
3. Recruitment and retention of the most promising students, with the

continued emphasis on the recruitment and retention of minority students,

4. Curriculum review and revision to ensure that the theory, knowledge and skills needed by our students to practice in a dynamic social welfare environment are the most relevant and the means by which information is presented makes the best use of information technology,

5. Improving linkages with other schools and units within the University for collaborative research and teaching.

Of the six University Academic Priorities, these interrelated initiatives directly link to four of the priorities, namely: Life Science, Technology and Policy; Management, Leadership and Organizations; The Urban Agenda; and Information Science, Technology and Society.

In addition, the School has developed goals and outcome indicators in the areas of administration, budget and finance, and student selectivity. These goals are listed below.

Administrative Goals

- to keep administrative staff at current level.
- to keep to a minimum increases in additional costs in areas of security and computer technology.
- to hold the percentage of budget allocated to administration constant as we attempt to manage increased numbers of students and faculty and the supports necessary to sustain their additional activities.
- to sustain steady increase in revenue by increasing financial aid total at lesser percentage than increase in tuition, and by generating scholarship fund gifts to increase endowment.'

Financial Goals

- to acquire two endowed chairs by the end of the current five year plan.
- to increase number of funded grants and applications filed by five percent in each of the first three years.
- to develop a revenue-generating continuing education program.
- to continue to show balanced budget at end of each fiscal year.
- to implement five-year budget planning process.

Revenue Generating

- establish a revenue generating service center for contracts, consulting arrangements and fees for service.
- re-evaluate the use of the student computer center and its current costs.

Cost Containment

- create a copying system where personal and research costs can be recouped. Streamline current policy to contain paper use, excess usage, and maintenance costs.
- integrate School business office and Center for the Study of Youth Policy business office to reduce cost, duplication and deployment of staff.

Student Selectivity Goals

- increase mean and median GPA.
- increase in number and percentage of top student prospects who matriculate by 20 percent through the development of increased resources for financial aid.
- decrease in applicant to admit ratio by increasing applicant pool to 800 applicants through our outstanding recruitment program.
- increase in admit to matriculation ratio will be determined by our success in increasing financial aid funding.
- maintain full funding for top Ph.D. students—already in place.

The School of Veterinary Medicine

Alan M. Kelly, Dean

Pennsylvania's only veterinary school is part of the University of Pennsylvania where it serves to distinguish the University from other competitive educational institutions. On any campus where biomedical research and thus basic understanding of animal biology is such a crucial component of the intellectual enterprise, a superb school of veterinary medicine is a profound asset, adding a dimension that uniquely broadens the University's contributions to society.

The School is unique among veterinary schools being situated in an urban setting as part of a great private university that includes one of the world's leading centers of biomedical research. At the same time, the School operates a rural campus, New Bolton Center, close to one of the world's richest centers of animal agriculture. Of the 27 schools of veterinary medicine in the U.S., 24 are rooted in agriculture at land grant institutions. By contrast, Penn's School of Veterinary Medicine has been firmly rooted in the medical sciences from its foundation.

The benefits that accrue to the School from its close affiliation with the Medical School are numerous and contribute to the School's reputation for excellence and ranking as one of, if not the best veterinary school in the world. During the 1960s and 70s this affiliation kindled the development of clinical specialization, launching an advance that revolutionized veterinary medicine in North America and Europe and greatly enhanced the quality of care available to all types of animals.

At the same time the caliber of research at the School advanced to a remarkable degree. By the late 1970s, the school attracted more research dollars from the NIH than 60% of all medical schools in the U.S. Faculty at the School are at the forefront of advances in molecular biology and have pioneered in the development of transgenesis in animals. During the past 12 years, 40% of all papers from veterinary schools throughout the world that were published in *Nature* and *Science*, arguably the most prestigious of international scientific journals, were contributed by faculty at the School. The nearest rival contributed just 5% of papers. Moreover, the number of papers contributed to *Nature* and *Science* by the School greatly exceeds the number contributed by any of the other medical schools in the Commonwealth of Pennsylvania with the exception of Penn's School of Medicine.

At the Philadelphia campus the program is oriented towards fundamental animal research with human health objectives. The Veterinary Hospital of the University of Pennsylvania, VHUP, has the largest small animal case load of any veterinary hospital North America. At New Bolton Center the faculty contribute to human welfare by advancing domestic animal health and productivity, animal health economics, food safety and environmental conservation. The *New York Times* recently designated New Bolton Center as the "premier equine clinic in the world." A satellite campus at The Marine Biological Labs, Woods Hole, Massachusetts has pioneered in studies of aquatic animal health. This field seems destined to blossom in the 21st century as farmed fish becomes the major source of sea food in the U.S.

The operating budget for the School is \$63 million, 77% in unrestricted and 23% in restricted dollars. Tuition accounts for \$7.5 million or 12% of the operating budget.

Professional student enrollment is 436, with 75 % women and a mean GPA of 3.3. The standing faculty comprises 114 in professorial rank, 85 in the tenure track and 29 as clinician educators. This 4:1 student/faculty ratio will be maintained for the foreseeable future as the intensity of clinical teaching in the final 12 months of curriculum makes higher ratios impractical.

Faculty attract more individual research grants from NIH than any other veterinary school in the U.S. In 1995-96, competitive extramural research funding represented more than 16% of the operating budget. Sixteen percent of the operating budget was derived from clinical revenue, a figure that is greater than any other veterinary school in the world.

Goal

To advance the School's position at the pinnacle of veterinary medicine and further its programs of excellence in teaching, research and clinical service.

Specific Initiatives

1. Relations with the Commonwealth: The School must fashion a different, more secure relationship with Commonwealth and the legislature must be persuaded to provide significant scholarships for Pennsylvania residents. For the School to succeed in attracting the best students these funds must be forthcoming in a timely and predictable manner. The Commonwealth must also be persuaded to finance deferred maintenance at the School, and to advance new initiatives germane to Pennsylvania's multi billion dollar animal industry.

2. Interdepartmental Centers of Research Excellence: The School has a proud tradition of commitment to basic science research. It is at the interface between basic and clinical sciences that some of the most creative ideas and significant progress in comparative medicine can be realized, and it is in this realm that the School can make the most effective use of its intellectual and physical resources. A goal is to focus the talents of a community of scholars from different disciplines on common goals and create a framework in which program project grants and research training grants can be secured. Outstanding new faculty, research fellows and graduate students recruited to the Centers will enter a community with a critical mass of interested faculty to provide effective mentoring and the resources to foster success.

(a) *The Center for Animal Transgenesis and Germ Cell Biology*

The Center, based at New Bolton Center, will combine outstanding quality of research on the manipulation of the animal genome, with more applied aspects of the production of transgenic animals including farm animals. As such, it will combine research from all departments within the School as well as researchers interested in germ cell biology in other schools at the University.

(b) *The Mari Lowe Center for Comparative Oncology Research*

The School must advance its program in comparative oncology, presently it is not in the top tier. The School has the world's largest database of spontaneous tumors in the dog and cat and a number of malignancies in these species appear to provide very good, yet unexplored models of malignancies in humans. The goal is to explore the pathogenesis of malignancies in animals living in a common environment with man and to use this knowledge to advance understanding and novel therapies for cancers in all types of animals including man.

(c) *The Center for Comparative Medical Genetics*

The Center is presently using spontaneous models in the dog and cat to define the gene mutations that cause inborn errors of lysosomal function, structural defects of the heart, and deficiencies of the immune system. These models of human disease are being used for studies on gene replacement therapy. Members of the Center are developing a service to characterize genetic disease in the dog and cat and counsel breeders on ways of eliminating these defects.

(d) *The Center of Animal Health and Productivity*

The Center is concerned with maintenance of the physical and economic health of whole animal populations; programs focus on the health and productivity of dairy, swine and poultry systems in Pennsylvania and are concerned with the impact of these systems on the environment. GATT and NAFTA emphasize the need for U.S. agriculture to anticipate a global free market economy. In view of this, a new Wharton MBA program with special education in animal health economics is in discussion.

(e) *The Center for Infectious Disease Research and Food Safety*

The Center addresses a burgeoning national concern about newly emerging and re-emerging diseases. Veterinarians are primarily responsible for the safety of all foods of animal origin. To remain competitive in a global economy, U.S. agriculture must produce a safe and nutritious product that conforms to national and international standards that ensure the health of the consumer. The U.S. presently does not have such a system. This deficiency not only threatens U.S. competitiveness in a global economy it also risks the health of the American consumer.

(f) The Center for Aquatic animal Medicine and Pathology

Today, aquaculture in the U.S. is a fledgling industry but in the 21st century most of our fish, shell fish, lobster and crab is likely to come from farmed sources. Presently, this is a high risk enterprise subject to staggering losses as too little is known about nutrition and control of diseases of fin fish and invertebrates. Through research and training the School must prepare students to work in this new industry. Presently, the School leads the successful *AQUAVET*® summer courses at Woods Hole, Massachusetts. In collaboration with the School of Engineering and Applied Science and the Wharton School, the School of Veterinary Medicine is advancing a program to establish and support an aquaculture industry at the Navy Yard in Philadelphia. The prospect is a potential partnership between the University and the City that will provide avenues for research, teaching and the creation of jobs.

(g) The Center for Equine Sports Medicine

To maintain excellence in equine medicine and surgery, the School will advance its programs in comparative orthopedic research, pulmonary physiology and methods of shoeing horses to improve performance. The School must remain at the cutting edge of technology in sports medicine and find the resources to construct new research labs, a new equine heart station and radiology suite that anticipates the inclusion of an MRI at New Bolton Center.

International Programs

With the transition to global free market economy resulting from NAFTA and GATT, U.S. agriculture, including Pennsylvania's burgeoning animal agriculture, has the opportunity to increase intensity of production and expand food exports. In anticipation of this, the School is planning with the Wharton School an international program in business administration and animal health economics.

The study of infectious diseases, and in particular tropical human and veterinary diseases lends itself to the development of a strong international dimension for the School. Due to the number of NIH grants in Parasitology, Penn has been chosen by NIAID as one of the co-operating groups in the International Centers for Tropical Disease Research program.

Outcome Measurements

The School will:

1. Obtain the resources to significantly reduce the indebtedness of students at graduation. These resources shall be secured from increased

State support, increased alumni giving and private sector endowment. The goal of attracting the best students and raising the entering class average GPA score to 3.5 parallels this initiative.

2. Obtain the resources to recruit and retain outstanding faculty. Young faculty must be supported with appropriate facilities to execute their responsibilities in teaching, research and service. The School must strengthen its infrastructure of research support and create facilities such as an imaging center to advance the research program.

3. Engender an *esprit-de-corps* among the faculty and facilitate an open flow of information to all constituencies. Standards for success must be clearly articulated and understood by faculty in both the tenure and clinician-educator tracks.

4. Introduce uniform tools for rigorous evaluation of teaching success and clinical competence. These tools must include peer review. As a form of outcomes measurement, they may include feedback from recent graduates and the employers of our graduates.

5. Increase competitive research funding by 35% over the next 5 years. The goal of the centers of research excellence is to facilitate acquisition of individual research grants from the NIH, the USDA and other competitive granting agencies, and to attract program project grants and training grants.

6. More than double the numbers of veterinarians in training for careers in research either as Ph.D. students or clinical fellows by 2002. No other veterinary school in the U.S. can compare with the research training opportunities offered at the School through an appropriately structured Biomedical Graduate Studies. The School must promote this special niche.

7. Renovate 12,000 square feet of research space at the two campuses and carry out extensive deferred maintenance at New Bolton Center.

8. Acquire the land and start construction of a new teaching and research building in Philadelphia.

9. Expand the use of the World Wide Web as a medium for computer assisted instruction for professional students and for continuing education of graduates.

10. Enhance recruitment and retention of minority students.

Resource Requirements

To meet the challenges outlined above, the School must increase its support from private sources as well as from the state and federal governments. An estimated \$68 million in new resources will be needed by 2002 to accomplish Agenda for Excellence goals. Of that total, \$13.35 million is needed from increased government grants, \$17.5 million from the Commonwealth including funds for student financial aid, and \$37 million from private sources. If a new research building is added, an additional \$25 million will be needed and will be raised through state and private support. The School will continue its intense lobbying efforts in Harrisburg for increased and stable Commonwealth support. Finally, the School proposes to conduct a five year capital fund raising campaign to raise funds from private sources with a tentative goal of \$50 to \$60 million.

Agenda for Excellence: The Strategic Plans of the Schools
is the third in a series of planning documents issued
by the University of Pennsylvania.

The earlier reports were:

Agenda for Excellence (Almanac Supplement November 21, 1995)
Six University Academic Priorities (Almanac Supplement September 24, 1996)

Comment on *The Strategic Plans of the Schools* may be sent
by Friday, February 7, 1997, to President Judith Rodin,
Provost Stanley Chodorow, the Deans of the Schools,
or via email to plan@pobox.upenn.edu.