2004-2005 Science

Section	Document Name
Fiscal Health	• SCI.pdf

Mission

The IUPUI School of Science provides outstanding basic science education for all IUPUI students, education in depth for students in our School, and engages in fundamental and applied research in the physical, biological, mathematical, and psychological sciences in order to increase scientific knowledge and advance the development of the life sciences at IUPUI and in the State of Indiana.

Goals and Objectives

1. Build a Strong and Diverse Faculty

1. Hire excellent faculty in areas of high importance

Campus Planning Theme: Research, Scholarship and Creative Activity
Secondary Goals:
Sub Unit: None
Time Frame: on going

Actions taken for 2004-2005:

- Hire only faculty who demonstrate potential for excellence in research and who will be competitive for external funding, regardless of their focus

- Increased start-up packages 10x since 1990

- Merit awards for productive faculty

Evidence of Progress for 2004-2005:

External funding has increased dramatically over the past 10 years- Numbers of majors have increased- Improved satisfaction of students--undergraduate research at a high level--good synergy between teachong and learning and research.

Activities planned for 2005-2006:

Same as above actions

2. Develop Nationally Recognized Undergraduate Programs in Select Areas

1. Maintain curricula that provide students with the learning skills and knowledge essential for employment and life-long learning

Campus Planning Theme: Teaching and Learning

Secondary Goals:
Sub Unit: None
Time Frame: on going

Actions taken for 2004-2005:

Added or new curricula in areas of demand: BS in Geoscience with PEA, BA in Physics, BS/MS in Physics/Engineering, BS in Environmental Science, BS in Interdisciplinary Studies. Two new programs designed--Associate and Bachelor´s degrees in biotechnology, in conjunction with four corporate partners (Eli Lilly, Roche, DowAgroSci, Baxter), and BS in Forensic and Investigative Science with Law and SPEA. Innovative teaching strategies (JiTT) continued.

Evidence of Progress for 2004-2005:

Due to the work of Kathryn Wilson in the School of science, the campus will host the national conference on undergraduate research in April, 2004, with 2500 attendees expected. We are alrerady receiving calls expressing interest in enrolling in the biotechnology and frensic and investigative science programs, even though these have not yet been formally approved. Most student satisfaction levels are either up or remained steady.

Activities planned for 2005-2006:

Continue to develop strong undergraduate and graduate curricula. One area of focus will be regenerative biology and medicine. Continue to provide research-enriched educational opportunities for undergraduates that would otherwise not be available.

2. Increase overall retention and graduation rates by 10%
Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: None
Time Frame: 2002-2006

Actions taken for 2004-2005:

- All the actions in Objective 1

- Supported undergraduate research students financially, including students in the Minority Research Scholars Program

- Established the Math Assistance Center

- Enhanced advising

- Enhanced scholarship support

- Hired faculty who specialize in "gateway" courses.

- Recognized students who have performed well in gateway science and math courses, regardless of school (the SOS "A" Convocation)

- Attract a higher proportion of the best-qualified students. Established Women in Science House and Women in Science program.

Evidence of Progress for 2004-2005:

Total of 25 lecturers hired for gateway courses so far. Attendance of students and parents at "A" Convocation reached all-time high

- Percentage of high-achieving high school graduates admitted to the SOS has remained steady or increased: average SAT was 1128, average ACT was 25, average class rank 81%, all well above the university average. Those in the top 10% of high school rank increased by 10.7% over last year, in the top third 4.3% and in the middle thrd 36%. Math Assistence Center has been great success. Student persistence index of freshmen within the school was up 10% since 1997, for sophomores 7%, for juniors 6%, and for seniors has remained the same, at 73%. Rates for freshmen and sophmore minorities retained or graduated within the school were up 27% and 28%, respectively. These figures are somewhat higher if the total retained or graduated from all IU campuses is considered.

Activities planned for 2005-2006:

- All the actions mentioned above

- Closer ties with University College counselors

- Reward system for departments and faculty for effective retention measures

- Increase applications for grants and science education. To do this, we are investing in a grant writer/coordinator who will facilitate the writing of grants for science education and work with the School of Education. Increase number of co-op programs

- Initiate use of alumni mentor network. We also are mounting a strong push to attract freshmen who are better prepared in science and mathematics coming out of high school.

3. Gain external recognition for our undergraduate programs
Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2004-2005:

- Enhanced connections with schools

- Enhanced connections with admissions office

- Designed marketing campaign

- Continued to sponsor events involving students in K-12: High School Mathematics Contest, Genetic Update

Conference

- Brought teachers to campus: Department of Psychology

- Presentations to schools: All departments No changes.

Evidence of Progress for 2004-2005:

- High school math contest has tripled in attendance, Genetic Update Conference packed

- Set of coordinated department brochures produced

- Coordinated Powerpoint presentation for various constituencies completed

- 30 peer-reviewed undergraduate research papers published

- Awareness by Admissions Office of range and quality of SOS programs has increased

- No changes.

Activities planned for 2005-2006:

- Same as above actions

- Capitalize on IUPUI as the place to study a wide range of heath-related professions

- Presentations to business and corporate groups, schools, and others. A major problem is the lack of willingness by the campus to promote the recognition of general academic schools, particularly science and liberal arts (one sees only Medicine featured in most publications). We have therefore decided to hire a marketing/branding firm to bring to the attention of the public the quality of our academic programs and to promote recognition of the achievements of our faculty and students.

4. Increase diversity of undergraduate student body and faculty
Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: None
Time Frame: 2002-2006

Actions taken for 2004-2005:

- Financial support to Minority Research Scholars Program

- Interfaced with "Shades of Brilliance" campus recruiting program

- Have strived to provide a comfortable atmosphere for minority students and faculty, without making them feel "different"

- Search for female and minority candidates in pools, within our "hire the best" context

- Provide competitive start-up packages. No changes.

Evidence of Progress for 2004-2005:

- Increased the number of minority students campus wide through MRSP

- 3nd MRSP class graduated

- % minority students in SOS in Fall 2002 was 15%; African-American at 7%.

Activities planned for 2005-2006:

- Continue above actions

- Increase number of international students

3. Development of Nationally Recognized Research and Graduate Programs

1. Develop new academic and research programs of high scientific and national significance that build on current strengths
Campus Planning Theme: Research, Scholarship and Creative Activity
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2004-2005:

- Expanded MS programs through "fast-track" (non-research) options, BS/MS options

- Developed fundable multidisciplinary Centers of Excellence in new areas (Therapeutic Neuroscience, Visualization and Imaging, Nanoscale Imaging, Evidence-Based Psychiatric Practices)

- Maintained current disciplinary strengths

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Evidence of Progress for 2004-2005:

- Continued relationship with DARPA and Center for Regenerative Biology and Medicine. Interest level is high for program now called Advanced Injury Repair. The hope here is that this program will be funded at the multi-million dollar level to the Center. Number per faculty of publications, presentations, invitations to national and international conferences, editorial board memberships, editorships, patents, etc. is comparable to other major research universities.

- External review of CIS and Geology qualifications for PhD program was highly positive; program approved by W.

Lafayette

- Currently 66 PhD candidates (Fall 2005) and ~20 postdoctoral associates

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Activities planned for 2005-2006:

- Expand number of PhD students (goal: 100) and postdoctoral associates (goal: 30)

- Develop graduate programs in Computer & Information Science (5 graduate certificates), Forensic & Investigative Science (M.S.), multidisciplinary Environmental Science (Ph.D.), and Biostatistics (Ph.D.)

- Get PhDs credited to IUPUI campus

- Continue focus on Centers of Excellence

2. Increase annualized external funding for research to $10M
Campus Planning Theme: Research, Scholarship and Creative Activity
Secondary Goals:
Sub Unit: None
Time Frame: 2002-2007

Actions taken for 2004-2005:

- Identified emerging research directions and used existing strengths to capitalize on them

- Hired research-competitive new faculty

- Used centers of excellence and multidisciplinary activities to attract large grants

- Returned 70% of F/A to departments as incentive to submit proposals

- Identified key internal and external collaborations No changes.

Evidence of Progress for 2004-2005:

- External funding has doubled over the last five years

- All tenure-track hires have demonstrable potential for fundable research

- 49% of faculty externally funded

- Five major multidisciplinary research directions have emerged and have been supported by the SOS: psychobiology of addictions, earth and environmental science, computer and information science and technology, regenerative biology and medicine, and materials science. Significant enhancement of collaborations in key campus areas of computer and information science and life science. ollaborations established with the Institute for Biocomplexity at IUB.

Activities planned for 2005-2006:

- Continue actions listed above

- Increase number and diversity of proposals to agencies and foundations (including science education)

- Solicit endowed fellowships through Campaign

- Make new building a part of the Campaign

- Bring US Geological Survey to IUPUI. Hired major gifts officer to raise money for new building. The goal of the campus is to double our research funding in the next 5-10 years. If Science is to participate in this goal, promoting the acquisition additional research space for Science must be a campus priority as well as a School priority. Space limitations currently maake it difficult to hire research-competitive faculty to replace those who are retiring and who have been engaged primarily in teaching.

3. Increase research infrastructure

Campus Planning Theme: Research, Scholarship and Creative Activity
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2004-2005:

- Return 70% of F/A to departments

- Seek funding through Campaign for IUPUI for centers of excellence

- Seek funding through 21st Century fund and external agencies for centers for excellence or other infrastructure projects

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Evidence of Progress for 2004-2005:

- Tremendous increase in infrastructure over past 5 years through 70% return of ICR (~$6M expended). But infrastructure still far below what other universities have.

Activities planned for 2005-2006:

-Continue actions mentioned above -Increase research space through renovation of SL & LD space into research laboratories, renting office space off campus, and working toward a new building.

4. Enhance External Development

1. Further develop business and corporate connections

Campus Planning Theme: Civic Engagement
Secondary Goals:
Sub Unit: None

Time Frame: Ongoing

Actions taken for 2004-2005:

- Used input from Dean´´s Advisory Council and Alumni Association Board of Directors

- Made corporate scientists and state government agencies part of grant proposals and other initiatives

- Began effort to develop co-op programs

- Continued Frontiers in Science series

- Participating in Connect Tech No changes

Evidence of Progress for 2004-2005:

Campaign funding is at 81% of goal. We expect to reach 100%. Frontiers in Science a good draw.

Activities planned for 2005-2006:

-Continue Frontiers in Science -Continue ConnectTech -DAC and Alumni Association Board advocacy No changes

2. Enhance fundraising
Campus Planning Theme: Civic Engagement
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2004-2005:

- Active Alumni Association Board

- Active Dean´´s Advisory Council

- Organized Campaign Committees

- Set priorities and goals for campaign

- Identified major gift prospects. Hired major gifts director.

Evidence of Progress for 2004-2005:

- Number of gifts increased by 61% - 72% of the way toward campaign goal - Number of meetings with corporate and civic groups has increased. Number of donors increased 36%, number of gifts 32%.

Activities planned for 2005-2006:

- Establish campaign committee for each department

- Develop SOS faculty interest in giving

- Develop donor recognition program

- Include school leadership in major gift fund-raising.

3. Increase alumni programs
Campus Planning Theme: Civic Engagement
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2004-2005:

- Frontiers in Science series

- Alumni scholarship established

- Regular alumni Association Board meetings

Evidence of Progress for 2004-2005:

- Alumni Board meetings are well-attended

- Frontiers in Science has been a great success

Activities planned for 2005-2006:

- Increase number of dues-paying members

- Recruit participants form our general alumni population

- Survey our alumni population to determine what they want from the Alumni Association

- Develop programming based on their responses

4. Enhancement of media exposure
Campus Planning Theme: Civic Engagement
Secondary Goals:
Sub Unit: None
Time Frame: Ongoing

Actions taken for 2004-2005:

- Working closely with Media Relations

- Developed School and Department fact cards and brochures

- Faculty have given radio and educational television spots and interviews.

Evidence of Progress for 2004-2005:

- Progress hampered by lack of campus interest in promoting other than Medicine.

Activities planned for 2005-2006:

Same as actions mentioned above. Will hire public relations firm to give the school more visibility and recognition.

Fiscal Health

*** Fiscal health report for 2005-06 is attached as PDF file.***

Reallocation Plan

Other Question(s)

Doubling goals. **In what ways has and will your responsibility center contribute to the Chancellor´s doubling goals for enrollment (retention and graduation rates and degree conferrals), research and scholarship (grants and contracts), and civic engagement (service learning, internships, community collaborations)?**

Doubling enrollment:

The School of Science believes that doubling the number of degrees conferred can be achieved through a combination of increased enrollment, recruiting of high quality students, and improved retention; we are working to achieve these goals through a number of initiatives. To increase our enrollment, we are working to create new programs that address both student interest and the needs of Indiana employers. Examples include our new degree programs in Environmental Science,* Forensic and Investigative Science,^ Biotechnology, and Interdisciplinary Studies. Efforts to recruit new, high quality students include increased scholarship support and the creation of Women in Science House, a new living unit that includes on-campus housing, scholarship support, and programs aimed at retention and career development. Women in Science House also has a positive impact on our recruiting goals as well. The response was so positive, that Women in Science Hose filled to capacity in its first year, almost entirely with Freshman students. We also have several retention initiatives planned and underway. Highlights include the Freshman work program, created two years ago using CTE funds. This program allows us to employ many first year students within the school, helping ease their financial burdens and helping to engage them with their major departments early in their student career. We are also moving forward to implement a new warning system, in which all students receive a warning letter and an advising hold at the first signs of academic difficult.

*Forensic and Investigative Science is offered in collaboration with the School of Law and the School of Public Environmental Affairs.
^ Environmental Science is offered in collaboration with the School of Public Environmental Affairs and The School of Liberal Arts.

***Diversity*. What actions have you taken and what results have you achieved in diversifying your student body (particularly in improving the success rates of minority students) and your faculty and staff?**

The School of Science has taken the leadership for improving diversity among our students and for assuring a higher retention and graduation rate of minority students in the sciences. For the 2005-06 academic year, we support four new-first-year minority students (doubled the original plan that only supported two new students each year) who are selected and participated in the IUPUI Diversity Scholars Research Program. We shall add three to four students each year, thereafter. Additionally,the NSF funded project Indiana Louis Stokes Alliance for Minority Participation (LSAMP) that is housed in the School of Science will continue to support the doubling effort for retention and graduation of minority students in the sciences. We graduated two outstanding minority students in Physics and Biology in May 2005. Both of these students entered graduate and professional schools in the fall 2005.

Diversity inclusive language is included in all School of Sciences job postings. Specifically, the Dean pays close attention to the search and screen processes to fill faculty and staff positions. All departments are required to place position announcements in the appropriate marketing channels or professional journals that are heavily subscribed by minority candidates. Improving the diversity of faculty and staff members is one of the Deans primary objectives.

***Campus coordination and cooperation*. Are you willing to work with an adjudicative group in resolving conflicts in course and program offerings in the spirit of reducing campus duplication and overlap? If so, what forum or format would be most helpful to you? Please cite examples of your cooperation with other units in resolving such conflicts.**

4) What actions have you taken to promote the retention of all students, and in particular, individuals who would diversify the student body, e.g., ethnic, racial, and gender minorities?

5) What uses are you making of the student technology fee?