2001-2002 Science

Section	Document Name

Mission

VISION: To be recognized as an exceptional resource and first choice by those who wish to participate in academic, research, and civic engagement activities of the highest quality.

MISSION: To serve and improve society by educating our students as discerning citizens and leaders in productive careers, and by advancing knowledge and understanding of the natural world through basic and applied research.

These statements put learning---by the active study of the known and by discovery of the unknown----at the center of our vision and mission.

Goals and Objectives

1. Build a Strong and Diverse Faculty

1. Hire excellent faculty in areas of high importance

Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: n/a
Time Frame: on going

Actions taken for 2001-2002:

- Hire only faculty who demonstrate potential for excellence in teaching and/or 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 2001-2002:

- Teaching has become better

- External funding has increased dramatically

- Numbers of majors have increased

- Improved satisfaction of students

Activities planned for 2002-2003:

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: n/a
Time Frame: on going

Actions taken for 2001-2002:

- Updated current curricula (math calculus sequence)

- Added or designed new curricula in areas of demand: BS in Geoscience, Associate in Chemistry, BA in Physics, BS/MS in Physics/Engineering, BS in Environmental Science, BS in Interdisciplinary Studies, first modular curriculum designed

- Introduced innovative teaching strategies (JiTT)

- Formalized and expanded undergraduate research program

- Assessed curricular success

Evidence of Progress for 2001-2002:

BS in Geoscience has gone to campus level (but no word); Associate degree in Chemistry approved by ICHE, BA in Physics and BS/MS in Physics/Engineering approved

- Just-in-Time Teaching expanded (Physics,Biology,Chemistry); workshop chemistry; revision of calculus sequence for science and engineering majors. JiTT has reduced Physics DFW rates 40%.

- Substantial number of publications and presentations by undergraduate research students

-Companies seeking us out for modular curricula

Activities planned for 2002-2003:

- Design and implement more 5-year baccalaureate/MS programs

- Design and implement more modular curricula

- Continue to develop strong graduate and research programs (these enhance the reputation of a university's undergraduate programs and provide research-enriched educational opportunities for undergraduates that would otherwise not be available)

- Continue the activities outlined in above(actions)

2. Increase overall retention and graduation rates by 10%

Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: n/a
Time Frame: 2002-2006

Actions taken for 2001-2002:

- 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

Evidence of Progress for 2001-2002:

- Formalized and expanded undergraduate research program

- Math Assistance Center activity at high level since its inception

- Total of 25 lecturers hired for gateway courses so far. searches for 6 more underway

- 2nd class of four Minority Research Scholars graduated

- Minority Research Scholars Program received attention in Star news article - Attendance of students and parents at

"A" Convocation reached all-time high

- Percentage of high-achieving high school graduates admitted to the SOS has increased: average SAT was 1130, class rank 82%

Activities planned for 2002-2003:

- 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

- Increase number of co-op programs

- Initiate use of alumni mentor network

3. Gain external recognition for our undergraduate programs

Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: n/a
Time Frame: Ongoing

Actions taken for 2001-2002:

- 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

Evidence of Progress for 2001-2002:

- 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

- Recognition of MRSP: article in Star

Activities planned for 2002-2003:

- 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

4. Increase diversity of undergraduate student body and faculty

Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: n/a
Time Frame: 2002-2006

Actions taken for 2001-2002:

- 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

Evidence of Progress for 2001-2002:

- Increased the number of minority students campus wide through MRSP

- 2nd MRSP class graduated

- % minority students in SOS is at 15%. -Female African-American faculty member hired

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Activities planned for 2002-2003:

- 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: Teaching and Learning
Secondary Goals:
Sub Unit: n/a
Time Frame: Ongoing

Actions taken for 2001-2002:

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

- Developed fundable multidisciplinary Centers of Excellence in new areas

- Maintained current disciplinary strengths

- Implemented new graduate curricula in Regenerative Biology and Medicine

- Assessed strength and success of graduate programs in CIS and Geology -Funded Nanoscale Imaging Center to start program in Materials Science

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Evidence of Progress for 2001-2002:

- Made connection with DARPA to design "Regenesis" project as future funding source for Center for Regenerative Biology and Medicine

- 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 59 PhD candidates and 18 postdoctoral associates

Activities planned for 2002-2003:

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

- Get PhDs credited to IUPUI campus

- Continue focus on Centers of Excellence

2. Increase annualized external funding for research to $10M
Campus Planning Theme: Teaching and Learning

Secondary Goals:
Sub Unit: n/a
Time Frame: 2002-2007

Actions taken for 2001-2002:

- 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

Evidence of Progress for 2001-2002:

- 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, earch 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

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Activities planned for 2002-2003:

- Continue actions listed above

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

- Solicit endowed fellowships through Campaign

- Make building extension a part of the Campaign

- Bring US Geological Survey to IUPUI

3. Increase research infrastructure
Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: n/a
Time Frame: Ongoing

Actions taken for 2001-2002:

- Return 70% of F/A to departments

- Seek funding through Campaign for IUPUI for centers of excellence

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

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Evidence of Progress for 2001-2002:

- Tremendous increase in infrastructure over past 5 years through 70% return of ICR (~$5M expended)

Activities planned for 2002-2003:

-Continue actions mentioned above -Seek funding for new research space (building extension)

4. Enhance External Development

1. Further develop business and corporate connections
Campus Planning Theme: Civic Engagement
Secondary Goals:
Sub Unit: n/a
Time Frame: Ongoing

Actions taken for 2001-2002:

- 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

Evidence of Progress for 2001-2002:

-Invitation to attend meeting on Life Sciences Initiative -Frontiers in Science a good draw

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Activities planned for 2002-2003:

-Continue Frontiers in Science -Continue ConnectTech -DAC and Alumni Association Board advocacy

2. Enhance fundraising

Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: n/a
Time Frame: Ongoing

Actions taken for 2001-2002:

- Active Alumni Association Board

- Active Dean"s Advisory Council

- Organized Campaign Committees

- Set priorities and goals for campaign

- Identified major gift prospects

Evidence of Progress for 2001-2002:

- Number of gifts increased by 61% - 72% of the way toward campaign goal - Number of meetings with corporate and civic groups has increased

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Activities planned for 2002-2003:

- Establish campaign committee for each department

- Develop SOS faculty interest in giving

- Develop donor recognition program

- Include school leadership in major gift fund-raising -Hire major gift officer

3. Increase alumni programs

Campus Planning Theme: Teaching and Learning
Secondary Goals:
Sub Unit: n/a
Time Frame: Ongoing

Actions taken for 2001-2002:

- Frontiers in Science series

- Alumni scholarship established

- Regular alumni Association Board meetings

Evidence of Progress for 2001-2002:

- Alumni Board meetings are well-attended

- Frontiers in Science has been a great success

Activities planned for 2002-2003:

- 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: Teaching and Learning
Secondary Goals:
Sub Unit: n/a
Time Frame: Ongoing

Actions taken for 2001-2002:

- Working closely with Media Relations

- Developed School and Department fact cards and brochures

- Faculty have given radio and educational television spots and interviews

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Evidence of Progress for 2001-2002:

- Invitations to give media presentations have increased and media coverage has incresed

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Activities planned for 2002-2003:

Same as actions mentioned above

Fiscal Health

The fiscal health of the school is becoming more and more dependent on ICR and salary savings. After all fixed expenses are paid, the remaining flexible dollars to run the every-day activities of the departments and to act on new initiatives are composed

paid, the remaining flexible dollars to run the every-day activities of the departments and to act on new initiatives are composed of 55% ICR plus salary savings and 45% general fund. ICR is 23% and salary savings is 32%. The salary savings have been generated by not filling positions vacated by retirements. In addition to financing departmental operations, the salary savings are being used to make up the difference between the actual salary and benefits costs of new lecturers and the amount appropriated by the Trustees for the lecturers initiative. We are thus cannibalizing tenure track faculty positions to hire lecturers.

Part of the problem Science has is the higher costs of delivering science curricula, including undergraduate curricula, relative to Liberal Arts. Market value dictates that we must pay higher starting salaries for faculty and to TAs, RAs, Fellows and certain types of staff, as well as provide expensive start-up packages to new faculty (up to $200,000 currently). Other costs include common research equipment, supplies and equipment for instructional laboratories, deionized water, laboratory space renovations, and subsidy for animal facilities and care. While the Technology Fee provides some assistance with instructional equipment, the cost of supplies is not adequately covered by the current laboratory fees. There is no recognition of these cost differentials in state appropriation or credit hour fees. We have not been allowed to charge special fees to cover these higher costs, as is done by a number of professional schools. For these reasons, we have had to reduce the number of tenure-track faculty to generate cash, while simultaneously relying more on ICR to make up the difference. This is definitely a downhill slope that will only get steeper.

Reallocation Plan

We received funds to hire an African-American geologist, Dr. Estella Atekwana. This hire has helped strengthen our program in geophysics and has increased the diversity of our faculty.

Other Question(s)