

SCHOOL OF SCIENCE DIVERSITY PLAN

Diversity Goal 1: Recruitment, academic achievement, persistence and graduation of a diverse student body.

Current Status: Without an existing diversity council the SOS has never centralized diversity efforts. Therefore, our first year we will mostly determine our current status and based on our findings make plans for following years.

1.1 School/Department Goal or Implementation Strategy for Diversity Goal 1

Recruitment

Begin to develop a program to increase the number of underrepresented students to reach the levels requested by IUPUI and comparable to central Indiana populations.

Performance Indicators for this Goal/Strategy

Completion of tasks indicated below will indicate good performance.

Tasks

1.1A Collect information on demographics of direct-admit science majors and UCOL science majors from the past five years.

1.1B Begin creating the infrastructure in the SOS and developing the contacts in the community so that *in the next few years* the school can:

- Invite high school juniors and seniors from underrepresented groups to attend campus gatherings showcasing the research of undergraduate students (LSAMP, AGEP, UROP, etc.).
- Develop closer ties with academic counselors from central Indiana high schools.
- Organize bi-annual orientation conferences to describe academic opportunities available to incoming freshmen.

1.1C Identify funding for scholarships for incoming underrepresented freshmen from among current funding sources within IUPUI as well as from federal and private sources, and connect these sources to eligible students.

Persons Responsible

1.1A Dean's office will organize information collection

1.1B Diversity Council with Recruitment Committee

1.1C Dean's office has information, will compile

Timeline for Completion (within plan period)

1.1A December 2007

1.1B Work of committee ongoing

1.1C May 2008

Report of Accomplishments

1.1A Over the last 5 years the percentage of direct admit minority students into the SOS has hovered around 12%, from a low of 11% in 2003 to a high of 16% in 2007. The percent of underrepresented minority (excludes

Asian/Pacific Islander) has remained stable at 7% every year except for 2007 when it was 10%. Although too early and small to suggest progress, this trend is encouraging. From among University College admits who intend to major in Sciences, the percentage of minority students was around 27% and underrepresented minority was around 22%.

For gender, direct admits are between 57% and 65% female and for UC intended majors they are between 62% and 65%. These findings suggest that the School is doing well attracting women to the majors. Future work should examine whether the percentage that comes in is similar to the percentage that graduate to make sure we are seeing these students through graduation. Also, these high percentages may be caused by a higher percentage in some departments and not others and so it is recommended that each department assess its own success in recruiting and graduating female students.

In terms of age, direct admits are almost exclusively (99%) younger than 21 years of age, whereas University College intended majors ages 21 and older fluctuated between 20% in 2003 down to 7% in 2007. These changes may reflect general demographic changes for the entire campus but should be evaluated further for their significance.

1.1.B Currently events such as the Undergraduate Research Symposium are held on a weekday. Inviting public school students to campus during their school year could be challenging for several reasons. For example, getting release time for field trips is becoming more difficult and the schools are under increasing pressure to align outside activities with the state standards and course requirements. Programs such as the Louis Stokes Alliances for Minority Participation (LSAMP) offer research possibilities over the summer and working to increase participation these programs might hold more promise

Suggestions: Perhaps a future direction might be to have UROP, LSAMP, the McNair Research Scholars, and others featured in a session or group of sessions during events such as Campus Day. Some thought might be given to scheduling a session on several evenings throughout the year, but this too has its drawbacks. However, one advantage to the evening session would be the possibility to form a science night similar to what is being done in local high schools. In this option the undergraduate researchers would be featured along with science inquiry events conducted by faculty and graduate students.

Many of the academic counselors from central Indiana high schools seem to be very much aware of the academic environment at IUPUI and IUPUI is recommended as a school of choice to their students.

Suggestions: Contact might be established in ways other than through the counselors. For example, math and computer science have outreach efforts in the form of yearly competitions and chemistry faculty have developed in class laboratory presentations. In the past, faculty had been invited to career night presentations, but these may not be active any more.

Campus organizations such as the School of Science Alumni Association could be contacted for input and help in this part of the plan. This group is very active and their input would be very valuable. Consideration might be given to working with area schools to develop possibilities for underrepresented students attending IUPUI and working in a research lab to attend high school science classes as a presenter or for IUPUI faculty to attend and answer questions on the current topic being covered in the class.

1.1C The School or Campus has a number of programs that provide support for underrepresented minority students. Among these are:

Women in Science (School level)

Tah-Tah Self Achievement Award (Department of Biology)

Multidisciplinary Undergraduate Research Institute (MURI; Engineering and Technology)

Louis Stokes Alliance for Minority Participation (LSAMP; Campus level)

Diversity Scholars Research Program (DSRP; Campus level)

Undergraduate Research Opportunity Programs (URPO; Campus level)

McNair Research Scholars Program (Campus level)
Summer Research Opportunity Program (Campus level)
Norman Brown Diversity and Leadership Program (Campus level)

Outside of campus there are a variety of sources. The SOS Dean's office could maintain a listing of these to share with interested students and faculty. Among them are:

[The Gates Millennium Scholars](#)

Funded by the Gates Foundation, "the goal of GMS is to promote academic excellence and to provide an opportunity for outstanding minority students with significant financial need to reach their highest potential"

[Hispanic Scholarship Fund \(HSF\)](#)

The Hispanic Scholarship Fund is the largest Hispanic scholarship-granting organization in the nation. HSF provides financial assistance to outstanding Hispanic students in higher education throughout the United States and Puerto Rico. The students represent every region of the country, and attend hundreds of institutions of higher education throughout America. Founded in 1975, HSF has awarded more than 45,000 scholarships totaling nearly \$60 million.

[Organization of Chinese Americans \(OCA\)](#)

Founded in 1973, the Organization of Chinese Americans, Inc. (OCA) is a national non-profit, non-partisan advocacy organization of concerned Chinese Americans. OCA is dedicated to securing the rights of Chinese American and Asian American citizens and permanent residents through legislative and policy initiatives at all levels of the government. OCA aims to embrace the hopes and aspirations of the nearly 2 million citizens and residents of Chinese ancestry in the United States as well as to better the lives of the 10 million Asian Americans across the country.

[The American Indian Graduate Center \(AIGC\)](#)

The American Indian Graduate Center (AIGC), a non-profit organization, was established in 1969. Founders Robert L. Bennett (Wisconsin Oneida) and John C. Rainer (Taos Pueblo) created a program to assist American Indian college graduates to continue their education at the masters, doctorate and professional degree level. AIGC was founded to help open doors to graduate education for American Indians and to help tribes obtain the educated Indian professionals they need to become more self-sufficient and to exercise their rights to self-determination.

[United Negro College Fund \(UNCF\)](#)

UNCF is a fund-raising consortium of 39 private, fully accredited, four-year, historically black colleges and universities. As an educational assistance organization, The College Fund provides operating assistance to its 39 member colleges and universities, administers over 400 scholarship programs for African American students, provides technical assistance for HBCUs, and conducts research and data collection on African American education. In its 55 year history, UNCF has raised over \$1.4 billion to promote higher education achievement in the African American community and has helped to graduate over 300,000 African Americans from undergraduate and graduate programs.

[USA Funds – Access to Education Scholarships](#)

USA Funds Access to Education Scholarships are open to high-school seniors, currently enrolled college students or incoming college students who are low income.

1.2 School/Department Goal or Implementation Strategy for Diversity Goal 1

Retention

Develop a program to retain a diverse student body.

Performance Indicators for this Goal/Strategy

Completion of tasks indicated below will indicate good performance.

Tasks

1.2A Examine the current structure of advising and mentoring of underrepresented undergraduate students and make recommendations for changes needed so that the School is able to:

- At the Freshman/Sophomore level, improve mentoring to underrepresented students, with particular emphasis on first generation freshmen and sophomore college students. Mentoring should be at the academic level, but also at the personal level, for example regarding scholarships, university part time jobs, etc. Academic intervention plans should be established targeting these student populations.
- At the Junior/Senior level, improve the participation of underrepresented students in research activities, practicum opportunities, and other career related endeavors.

1.2B Evaluate the climate for diversity at the SOS and *create a plan of action* to improve the climate that *may* include:

- Encouraging student participation in clubs and other social activities, if necessary encourage the creation of student organizations directed to a specific student population (i.e. Society of Hispanic Professional Engineers, Society of Women Engineers, National Society of Black Engineers).
- Developing multicultural activities that match the campus' monthly celebrations of diversity.
- Developing colloquia series that highlight the work and research of professionals of color in the various academic units.
- Turning the Diversity Council into a Diversity Committee that would be a permanent committee within the school with a 2-year appointment of members. The committee would be comprised of representatives from the faculty, staff and student populations.
- Developing a reward system to recognize and encourage the contribution of faculty and administrators to diversity.

Persons Responsible

1.2A Dean's office and Diversity Council/Committee

1.2B Diversity Council/Committee

Timeline for Completion (within plan period)

1.2A May 2008

1.2B May 2008

Report of Accomplishments

1.2A Currently, there are no specific advising practices in any of the departments in the School of Science that target students based upon some form of demographic diversity. While there are different forms of advising in the school, faculty, professional, Dean's office, and peer advising, none of it focuses specifically on students of color, disability, age, ethnicity, or religious affiliation. In addition, while conducting focus groups that surveyed students on whether they perceived any multicultural or diversity programming in the School of Science, they overwhelmingly replied that there was little if any.

In an effort to understand why some students succeed and others do not, the Survey of Entering Student Engagement (SENSE), launched in 2007, reviewed the impact that the first three weeks of college had on the trajectory of 13,200 students from 22 community colleges in eight states.

“The preliminary results help to spotlight tough but important questions for discussion in community colleges. Who is falling through the cracks? How might we rethink and redesign our institutional practices in ways that will help more persist and succeed,” says SENSE Project Coordinator Angela Oriano-Darnall.

According to the survey, college entry is a very important time. Community colleges need to have an environment that is nurturing, friendly and easy to navigate. Chaos and disorganization repel students from engaging further into the collegiate process, researchers say.

Among the survey data highlighted in a report being released today, researchers found that only one-third of entering students reported that an academic advisor helped them set goals and create a plan for achieving them, and 41 percent indicated that they had not used academic planning/advising services at all by the end of their first three weeks at college.

More alarming was the fact that only 23 percent of entering students reported that a specific person was assigned to them so that they could see that person when they needed assistance. A safety net of academic advisors is a proven method of retention.

Fifty percent of entering students were told that they could apply for financial aid, but only 29 percent said that a financial aid staff member helped them analyze their needs for financial assistance.

Research points to the potentially positive impact of student participation in student success or freshman orientation courses, still only 36 percent of entering students in the survey reported participating in such a course. “*Diverse Issues in Higher Education, Current News, New Study Looks at Retention in Community Colleges.* Nealy, Michelle J. March 24, 2008.

Although the report focused on community colleges, we believe the lessons learned could be applied to IUPUI. Therefore, the following plan of action is proposed:

- Getting more of our students in Windows on Science and Orientation to the Psychology Major will be important to retaining the diverse students.
- Currently built into the Psychology B103 course for first year students is a component of how to understand the overt and covert curriculum in the context of a multicultural perspective. Currently Windows on Science does not have a specific diversity related component and this committee advises that should be added.
- In terms of orientation advising, we suggest that a letter be sent to targeted populations of students welcoming them and letting them know about advising and potential classes and resources, as well as giving them the name and contact information of a faculty in their major who can be available to meet with them during the beginning months of their college work, at the least.
- Alternatively, faculty-student mentoring programs, which provide a 1 credit per semester, year-long experience for freshman or transfer underrepresented and first generation students, would help with all problems discussed in 1.2, including the one-on-one mentoring and relationship-development students need early on in their academic career. An example of such a program can be found in <http://dus.sdsu.edu/fsmp.html>.

1.2B. The School of Science Diversity Council conducted an anonymous survey among students. From the surveys it was clear that students in the SoS feel that our school is doing relatively well in Diversity. It was also clear, however, that there is room for improvement. Students felt that the curricula could be improved to enhance the

climate of diversity in the School. It was also clear that most students did not form part of any clubs or organizations. It was also the sentiment that the dissemination of the work done by minorities is crucial in motivating minority students to perform to their potential.

Involvement and identification of students in the SoS activities are crucial to the retention of a diverse, vibrant and, ultimately, successful student body. While the specific methodology has been recognized to differ among institutions, (see http://www.nsf.gov/news/news_summ.jsp?cntn_id=110124 and the reports cited therein) it is a common trend that a bridge program between high school and college is fundamental. Advising throughout school, and the identification of minority students with faculty and researchers in SoS disciplines are also key components for retention. In order to keep improving the climate of diversity within the SoS, the following plan of action is proposed:

-Investigate the possibility and necessity of developing a summer bridge program for minority students entering the SoS.

-Encourage minority students to get involved in undergraduate research as soon as possible, using the many opportunities existing at IUPUI (UROP, AGEF, MURI, LSAMP, to name a few).

-Develop a series of seminars where the accomplishments of minority scientists, both from the SoS and from outside, are highlighted. The recommendation for these meetings is for the minority scientist to present a Colloquium level talk, followed by a gathering after the presentation. In this gathering food should be provided by the SoS. The idea of the meeting is to attract as many students as possible so they can identify themselves with a future career path. Flyers and e-mails with details of the presentations will be sent to the members of the different students' organizations in campus and to a listserv created specifically for this series. The series also will be highlighted in the SoS webpage.

While in the future the Colloquia series might evolve into a stand alone one, we believe that at these times it is better to mesh them with the current Departmental Colloquia. The Departmental units should be made aware that when a minority speaker is to present a Colloquium, a time between 45 minutes and one hour needs to be allocated after the talk for the meeting with students. Similarly, speakers need to be alerted that they are required to engage with the participants after their presentation. Faculty advisors need to specifically contact minority students about this possibility.

-The different Departments and the Dean's office within the SoS need to better highlight the accomplishments of minorities in their respective disciplines. It is our recommendation that posters or materials selected by the Departments are shown in a dedicated board, placed in a visible space, with high traffic of students, staff, and faculty. The most likely space for these boards might be right outside the different Departmental and Dean's offices.

-A better dissemination within the SoS of the campus wide diversity activities needs to be undertaken. A simple link or highlight in the SoS webpage will suffice. Departments should be encouraged to provide a similar level of awareness.

Diversity Goal 2: Recruit, retain, advance, recognize, and promote a diverse faculty, staff and administration while creating a campus-wide community that celebrates its own diversity as one of its strengths and as a means of shaping IUPUI's identity as a university.

Current Status: Without an existing diversity council the SOS has never centralized diversity efforts. Therefore, our first year we will mostly determine our current status and based on our findings make plans for following years.

2.1 School/Department Goal or Implementation Strategy for Diversity Goal 2

Recruitment

Begin to develop a program to achieve improvement in the total number of minorities and women in each category. The committee emphasizes the total number as opposed to a percentage of the number of faculty and staff.

Performance Indicators for this Goal/Strategy

Completion of tasks indicated below will indicate good performance.

Tasks

- 2.1A Research methods for recruiting minority faculty, staff and administrators from diverse backgrounds. Individuals with expertise in this area can currently be found at IUPUI and further research can be conducted with other urban Midwestern universities, for example.

Persons Responsible

- 2.1A Diversity Council/Committee

Timeline for Completion (within plan period)

- 2.1A Ongoing

2.2 School/Department Goal or Implementation Strategy for Diversity Goal 2

Retention

Develop a program to improve the ratios of promotion in all groups going from assistant to associate level and from associate to full level.

Performance Indicators for this Goal/Strategy

Completion of tasks indicated below will indicate good performance.

Tasks

- 2.2A Complete an analysis of historical data on recruitment, retention and promotion of all groups of faculty. Within this context the committee would like to see data for minorities, females, and males. Based on these findings, *in future years the committee will create an action plan* to achieve this goal. The committee feels that, historically, advancement for minorities and women at both levels has been slow to moderate at best. The committee feels that it is important to establish a base for improvement by looking at the data for hiring as well as advancement in 5 year increments over the last 20 years.

Persons Responsible

2.2A Dean's office and Diversity Council/Committee

Timeline for Completion (within plan period)

2.2A May 2008

Report of Accomplishments

2.1A-2.2A We believe that accomplishment of Diversity Goal 2 may be the most difficult, and is clearly the area where we seem to have the most difficulty. In setting out to achieve goal 2.1A we determined we first needed to understand where we stand, which is goal 2.2A. Furthermore, we decided to focus on the area of this goal of most weakness, which we identified as minority status and faculty ranks. We began this task by investigating the presence of minority faculty over the past 8 years. Results showed that there is a dearth of underrepresented faculty, especially African American faculty, in the SOS. Furthermore, data suggest that retention of African-American faculty is especially difficult. The table below shows the numbers in detail. Clearly more efforts need to be made to recruit faculty of color (goal 2.1A); however, these efforts will not be successful unless retention efforts are implemented at the same time.

Therefore, we recommend a self-study of the school where reasons for the inability to successfully recruit and retain faculty from underrepresented backgrounds are identified. This needs to be a first step, as efforts to recruit as per goal 2.1A will not bear fruit in the long run unless we understand our weaknesses in retention and work to resolve them. This understanding highlights the importance of the data review associated with goal 2.2A. Without this review of data it would not have been clear that it may be necessary to have in place retention efforts before setting out to improve recruitment.

School of Science Faculty by Ethnicity - INTERNAL USE ONLY

Rank	Ethnicity*	2000	2001	2002	2003	2004	2005	2006	2007
Professor	Afrn Amer	0	0	0	1	1	0	0	0
	Asian	7	8	9	8	9	8	8	7
	Hispanic/Latino	1	1	1	0	0	0	0	0
	White	42	36	38	32	36	30	30	33
Asso. Prof.	Afrn Amer	1	1	2	0	1	1	0	0
	Asian	9	8	10	8	7	7	7	8
	Hispanic/Latino	1	0	0	0	0	0	1	2
	White	49	48	45	42	36	39	36	31
Asst. Prof	Afrn Amer	2	2	2	1	1	1	1	1
	Asian	4	4	3	4	8	13	14	12
	Hispanic/Latino	2	2	2	2	3	3	2	1
	White	14	12	11	11	13	12	16	15

NOTE: This report contains cells with small numbers of faculty and should be used of internal purposes only.

*International faculty are distributed by their reported ethnicity.

Diversity Goal 3: Make diversity a strategic priority touching all aspects of the campus mission.

Current Status: Without an existing diversity council the SOS has never centralized diversity efforts. Therefore, our first year we will mostly determine our current status and based on our findings make plans for following years.

3.1 School/Department Goal or Implementation Strategy for Diversity Goal 3

Ensure curriculum content and pedagogical strategies reflect a commitment to diversity.

Performance Indicators for this Goal/Strategy

Completion of tasks indicated below will indicate good performance.

Tasks

3.1A Establish baseline metrics:

- Gather information on DWF rates for SoS diversity students as a reflection of student population. Specifically, we want to assess whether diverse students “record” DWF rates at a level that is proportional or disproportional to their representation in a department population.
- For gateway courses in each department, request support in filling out a survey or giving access to curriculum materials to determine whether multicultural teaching practices are being implemented.

3.1B Establish intervention plan based on analysis of baseline metrics. For example, as appropriate, establish cohort groups to address disproportionate DWF rates, offer diversity training to faculty, etc.

Persons Responsible

3.1A 3.1B Diversity Council/Committee

Timeline for Completion (within plan period)

3.1A December 1, 2007

3.1B February 15, 2008

Report of Accomplishments

3.1A DWF rates for underrepresented students in the SOS Gateway Courses hover around 50% for African Americans and Native Americans, 32% for Asian Americans/Pacific Islanders, and 40% for Hispanics. This compares to rates of 35% for Whites. These percentages drop approximately 10-15% for non-gateway courses for each group (AA = 40%, NA = 35%, AA/PA = 23% and H = 26%). Among Science Majors specifically, the rates are about 20% lower for underrepresented groups in Gateway courses (AA = 35%, NA = no students, AA/PA = 12% and H = 26%), and 10% lower for Whites (25%), and even lower in non-gateway courses (AA = 29%, NA = 23%, AA/PA = 17% and H = 20%) and 18% for Whites.

These data suggest that: 1) Science students of all groups are more likely to succeed than the general IUPUI student body, and 2) there are fewer differences between groups in terms of success in upper level courses. This last conclusion can be problematic if it means that we are losing the students who struggle with the Gateway courses.

Furthermore, we conducted a survey of Science faculty regarding their multicultural teaching practices and knowledge. On a scale from 1 to 5, with 5 indicating strong use of multicultural teaching practices, Science faculty

scored 2.69 (SD = 0.56), which compared to faculty in Liberal Arts (Mean = 3.22, SD = 0.48), Nursing (Mean = 3.38, SD = 0.29), and the Medical School (3.02, SD = 0.47), among others, shows Science faculty score the lowest of all the colleges at IUPUI evaluated. Furthermore, although the majority of the 58 faculty who responded to the survey didn't answer the open-ended questions in the survey, many demonstrated knowledge of multicultural teaching, incorporating a world-view into their coursework, and interest and respect toward diverse students. These results are very encouraging and together with the findings above suggest that as a faculty we are prepared to teach these students once their basic skills reach the required level for our courses. Based on these findings, the following course of action is recommended:

3.1B

- In Gateway courses and beyond, identify SOS students who may not have the basic skills to succeed in the class.
- Create free tutoring opportunities for these students or other opportunities to manipulate the course material guided by someone with more expertise.
- Consider other options for either remedial work for these students before enrolling in the courses or for support while in the courses.

3.2 School/Department Goal or Implementation Strategy for Diversity Goal 3

Ensure that civic engagement activities are experienced in a culturally relevant context.

Performance Indicators for this Goal/Strategy

Completion of tasks indicated below will indicate good performance.

Tasks

3.2A Benchmark current activities by requesting all departments to provide a listing of events (with descriptions, calendars, etc.) that support diversity (mentoring, civic projects, etc.), paying special attention to civic engagement activities that happen in the vicinity of IUPUI.

3.2B Create a web page within the School website that provides information on school activities supporting diversity

3.2C Examine listing to determine whether there is overlap and possibly combine resources for more efficient work.

Persons Responsible

3.2A 3.2B 3.2C Diversity Council/Committee

Timeline for Completion (within plan period)

3.2A October 1, 2007

3.2B March 15, 2008

3.2C March 30, 2008

Report of Accomplishments

3.2A Department Chairs were polled to identify activities and events that each department had to support diversity. Only the Computer Science department is actively engaged in such activities, informing the committee of the following:

1. Indiana Women in Computing Conference - At behalf of department, School of Science sponsored attendance for interested women from the IUPUI CSCI department. Also, faculty guest speaker (Michele Roberts) delivered workshop session.
2. This summer, the department will host a one week Summer Camp for middle school girls entitled: Girl Power! Get a Clue!. The camp targets local middle school girls, will have a Forensics theme, and will expose young girls to key themes in Computer Science. Guest speakers will include distinguished women from academic and industry.
3. Awarded (conditional) summer stipend grant (Michele Roberts) to explore diversity support in N-series courses.

Other departments indicated no efforts whatsoever in attracting a diverse cadre of students or engaging in civic programs related to diversity.

At the School and campus level, there are a number of programs that involved mentoring and sometimes funding including the Women in Science, Tah-Tah Self-Achievement Award, MURI, LSAMP, DSRP, Diversity Research Forum, UROP, McNair, SROP, Upward Bound, and Norman Brown. Of these however, only the Upward Bound program attracts students at the pre-college level, which is where Diversity Goal 3 is focused.

Because of this, Diversity Goals 3.2B and 3.2C could not be completed. Based on our findings, the following course of action is recommended:

- Departments should pool efforts and, possibly organized by the dean's office, create a master plan for reaching out to middle and high schools with a high number of underrepresented students.
- Draw on resources and plans put forth in Diversity Goal 1.1 to increase the enrollment of a diverse student body directly into the SOS.

Revised 4/16/07

Diversity Goal 4: Regularly assess, evaluate, improve and communicate diversity efforts of IUPUI.

Current Status: Diversity Goal 4 will be incorporated within each of the previous diversity goals as one of the requirements for each goal.