

## **SECTION 2: SCHOOL-WIDE INITIATIVES**

In addition to our plan for new academic programs (Section 1) and research programs (Section 3), we plans to engage in several new School-wide initiatives that contribute to the overall goals of the campus as a whole.

### **1. Building Interdisciplinary Collaborations with Other Divisions**

Interdisciplinary collaboration between the SOE departments and with other UCSC divisions is synergistic with our efforts to broaden and strengthen SOE's programs and research. The SOE will pursue new opportunities for interdisciplinary collaboration by:

- Sharing courses between department across divisions that complement and support existing courses and programs;
- Creating new courses that span disciplines, such as in new programs in technology and information management, statistics and stochastic modeling, computer game design, autonomous systems, and biomolecular engineering; and
- Joint appointments of faculty.

There are ways in which central administration could improve the ability of all UCSC divisions to increase and improve their interdisciplinary collaborations. We recommend that central administration look at the following:

- Provide support to interdivisional joint faculty appointment by supporting 1/3 of the cost of the position (with the other 2/3 being split between the two hiring departments);
- Provide resources to develop adequate wet lab space for Biomolecular Engineering. Such wet lab space will enable BME to realize its goal of developing world class Biomolecular Engineering. Alternatively, alteration of Baskin Engineering building space would help meet the need without significant delay. Eventually we envision a new bioengineering building to house the BME program and biomaterials research;
- Coordinate hiring faculty searches across divisions; and
- Change existing policies and procedures for calculating teaching credits, such that departments with courses that have significant enrollments from other departments or divisions are appropriately rewarded. And acknowledge that more TA resources are needed in teaching laboratory courses than conventional classes.

### **2. International Programs**

The growing global nature of the world will increasingly impact every aspect of our professional and personal lives. The School of Engineering strives to be a school that is representative of the international world in which our students will live their lives. We accomplish this by reaching out to international students, creating learning opportunities that integrate topics of globalization into appropriate SOE programs and courses at both the undergraduate and graduate level, and by conducting research that is relevant and valuable worldwide. In just a few short years, SOE had built collaborative relationships

with higher education institutions and industrial organizations throughout the Pacific Rim, including Korea, Japan, Taiwan, China, Malaysia, India and Singapore. Also, we have begun a collaboration with EPFL in Switzerland.

The School has established MOUs for potential exchange programs with Hokkaido Information University (HIU), Yonsei University, Seoul National University, Korea Telecom (KT) and has to far received 22 full-time engineering students. Over the last two academic years, more than 20 participants from Korea Telecom have studied engineering and economics as part of a University Extension Certificate Program.

The President of National Chiao Tung University, Taiwan and his various deans visited UCSC to explore future collaboration. We had similar visits by directors and several professors of ITT, India. In October 2005, an international forum was held in Sapporo, Japan participants from HIU, Nanjiing University, China and UCSC to discuss matters related to IT education and research. In two years, UCSC plans to host this meeting on our campus. Ajou University, Suwon, Korea wishes to establish a MOU for exchange of students and faculty members. In March, Don Wilberg, UCLA professor emeritus and now affiliated with our campus, will visit and teach courses at Ajou University. Malaysia also wishes to send students for undergraduate engineering degrees. In response to invitations, the Dean of Engineering plans to visit India, Singapore and Malaysia in the next few years.

The growing global nature of the world will increasingly impact every aspect of our professional and personal lives. The Baskin School shall be a school that is representative of the international world in which our students will live their lives. We will investigate ways to reach out to international students, and create courses and programs that integrate topics of globalization into appropriate SOE programs and courses.

### **3. Improving Enrollments**

By 2010-2011, the SOE plans to increase enrollments and improve budgeted faculty workload ratios from 14.4 to between 15 and 16. This will be accomplished in the following ways:

- Develop new and attractive programs, which will bring students to UCSC in greater numbers. Examples of such programs include the Applied Mathematics, Autonomous Systems, Bioengineering, Biomolecular Engineering, Computational Biology, Computer Game Design, Software Engineering, Statistics and Stochastic Modeling, Technology and Information Management and a project-oriented Master's of Engineering in Electrical Engineering;
- Develop a university honors program in engineering;
- Increase fellowship funds both internally and by externally funded training grants which enable the SOE to increase its number of talented graduate students and offer competitive multiyear GSR's/fellowships to the most talented students. Towards this end, the SOE will hire a grants writing coordinator to assist the faculty in putting together large scale, multi-investigator research and training

grants, and we will work across divisional boundaries to create interdisciplinary efforts;

- Increase interactions with Community Colleges in the region, in particular Foothill, DeAnza, Mission ,Cabrillo and Hartnell. Through the NSF DEEP (Developing Effective Engineering Pathways) program, SOE faculty members are collaborating with community college faculty members to help attract more students into engineering fields;
- Establish the plan for a new building with adequate wet lab space for the Biomolecular Engineering Department and other engineering programs which have the need for wet lab type space. The BME program cannot be successful without adequate resources, including a wet lab and contiguous office space for its faculty;
- Develop new undergraduate courses, that will appeal to a broad spectrum of UCSC students, such as courses on how to better understand and use computers, information and technology, nanotechnology and renewable energy resources. Some of these courses will function well as general education courses to increase the technological literacy of the UCSC student population. Others will enable students who are trying to decide on a career direction to know if engineering is the right choice for them;
- Work to increase retention of undergraduate students by emphasizing/requiring more faculty contact; and
- Reach out to international students. The growing global nature of the world will increasingly impact every aspect of our professional and personal lives. The School of Engineering shall be a school that is representative of the international world in which our students will live their lives. We will investigate ways to reach out to international students, and create courses and programs that integrate topics of globalization into appropriate SOE programs and courses.

We note that as a program focused jointly on graduate and undergraduate education, any unadjusted summation of enrollments will necessarily put the SOE at a disadvantage because of the instructional intensity of graduate education.

#### **4. Diversity Promotion**

The Baskin School remains committed to continuing to make strong efforts to recruit, develop, promote, and retain the highest quality faculty, students, and staff. We will continue to foster an environment that highlights diversity of thought, expression, culture and educational experiences.

Although still relatively young, the School's original departments have a strong history of faculty diversity, particularly with regard to women and Asians and that trend continues as we have grown and added new departments and disciplines. However, we are still struggling in the area of recruitment of faculty from underrepresented populations. The School of Engineering has been committed to continued good faith efforts to recruit, develop, promote, and retain the highest quality faculty for the School and to provide the

campus with a faculty consistent with the ethnic and gender diversity of available Ph.D.'s to serve our student population. We recognize that the diversity of our faculty applicant pools is ultimately a factor in the diversity of engineering graduates. As such, the school has a strong history of providing co-curricular and outreach efforts in support of recruiting, retaining, and ensuring the success of a diverse student population.

We must also note that the School is often at a disadvantage in its efforts to recruit underrepresented faculty due to resource constraints and our inability to provide a competitive salary and start-up package.

The School promotes diversity through student outreach to underrepresented groups. Specific examples of such efforts include:

- Appointed an SOE faculty member to be director of student outreach for the School. This is a new position;
- Created a permanent staff position in undergraduate affairs to handle student outreach;
- Strengthen ties with other educational institutions to reach underrepresented groups through programs such as the NSF-funded Developing Effective Engineering Pathways (DEEP) Program;
- Create the "Welcoming Diversity Project", which seeks to: (1) increase student retention in computing during the first two years of University education, (2) understand the issues at UCSC that lead to a lack of retention, and (3) begin increasing the pipeline by exposing students at local K-12 schools to computing and woman computer science and engineering students;
- With aid of a Campus Diversity Grant, in 2005 we established eWomen, a support community for female graduate students and faculty, now funded in part by Google. We will work to ensure the continuing success of this new organization;
- The planned Bioengineering BS program is expected to increase the number of women, underrepresented ethnic/racial minorities, and disabled students attending UCSC and pursuing engineering majors; and
- Working with the Division of Physical and Biological Science, create the right climate at UCSC successfully put in a bid to the National Conference of Black Physics Students to hold their annual meeting at UCSC sometime in 2009-10.

The major emphasis of diversity promotion for the School has been in the area of student diversity. The Baskin School of Engineering has a strong commitment to student diversity at the undergraduate and graduate levels. The disciplines of engineering and computer science, nationally, are constantly struggling with diversity, both with respect to women and with respect to members of underrepresented ethnic and racial groups. The Baskin School is an active participant in this struggle. Below, we discuss related issues with respect to recruitment and retention of female students and underrepresented minorities. While many of these programs serve both issues, some programs are primarily targeted toward diversity with respect to specific subgroups.

Finally, it should be noted that the School is sometimes at a disadvantage in its efforts to recruit faculty from under-represented groups due to significant resource restraints.

Engineering Diversity: Female Students in the SOE

Bachelor's degrees awarded by the School show an acute lack of diversity in comparison to the social and natural sciences. In 2000, the percentage of degrees awarded nationally to women in social sciences was 62%, natural sciences 55%, mathematics/computer science 32%, and engineering 20%. With the recent national decline in interest in computer science, there has been a particularly troubling rapid decline in the interest of women in computer science. Nationally, the total number of incoming U.S. college students interested in majoring in computer science eroded by 60% between 2000 and 2004 overall but 75% for women. At the Baskin School, we have seen the national trends in declining interest in computing and declining interest of women in computing most strongly in the Computer Engineering, Computer Science, and Information Systems Management majors. The declining interest of woman is most startling, with a drop from 19.5% female in 2001 to 9.9% in Fall 2004 among those three majors (table below).

<b>Undergraduate Proposed and Declared Majors</b>							
<b>Fall 2001</b>	<b>BINF</b>	<b>CE</b>	<b>CS</b>	<b>EE</b>	<b>TIM</b>	<b>SoE</b>	<b>UCSC</b>
Female	1	9	51	1	15	77	7089
Male	0	101	181	31	27	340	5418
%							
Female	100.0%	8.2%	22.0%	3.1%	35.7%	18.5%	56.7%
<b>Fall 2002</b>	<b>BINF</b>	<b>CE</b>	<b>CS</b>	<b>EE</b>	<b>TIM</b>	<b>SoE</b>	<b>UCSC</b>
Female	8	14	40	4	29	95	7306
Male	11	115	206	34	61	427	6739
%							
Female	42.1%	10.9%	16.3%	10.5%	32.2%	18.2%	52.0%
<b>Fall 2003</b>	<b>BINF</b>	<b>CE</b>	<b>CS</b>	<b>EE</b>	<b>TIM</b>	<b>SoE</b>	<b>UCSC</b>
Female	13	17	32	12	23	97	7861
Male	24	122	249	50	56	501	6471
%							
Female	35.1%	12.2%	11.4%	19.4%	29.1%	16.2%	54.8%
<b>Fall 2004</b>	<b>BINF</b>	<b>CE</b>	<b>CS</b>	<b>EE</b>	<b>TIM</b>	<b>SoE</b>	<b>UCSC</b>
Female	14	17	27	17	10	85	
Male	32	183	256	109	52	632	
%							
Female	30.4%	8.5%	9.5%	13.5%	16.1%	11.9%	

These data do not provide the full picture, however, because until recently approximately 40% of incoming students did not indicate any planned major. At UCSC, students may wait until their junior year to declare a major. A frequent loss to computing majors has been the student who never receives advice from the engineering advising office, and

decides not to pursue a computing major after a discouraging quarter. Beginning fall 2004, students were encouraged to indicate a cluster of majors (“Information Sciences, Engineering and Technology” for all School of Engineering majors), and are required to do so beginning fall 2005. These clusters, combined with AIS, have enabled targeted emailing to students in their early years. Furthermore, some departments are assigning faculty advisors to freshman/sophomore students interested in Engineering and requiring regular contact between the advisor and student.

In comparison to other Schools of Engineering, the SOE has among the highest percentage of women faculty in the nation. The school has grown from 13.6% in 2003 to 15.7 % in 2005, which placed UCSC eighth in the nation. Of course, these numbers continue to be depressingly below one half. Some departments, such as Computer Engineering, have focused on assigning women faculty and teaching assistants to entry computing courses when appropriate.

Six years ago, undergraduate students and faculty formed an active Society of Women Engineers (SWE) chapter. The chapter has served multiple functions of providing a supportive community for undergraduate SOE women, developing community activities such as a regular Game Night, and sponsoring workshops through the year on topics such as C and Unix. Perhaps most importantly, the group provides active mentoring for new students. This includes major and course advice, pointers to which faculty to go to when facing either academic or laboratory culture issues, and general education advice, such as a strong recommendation that all engineering students, but especially women, take the 'Introduction to Feminism' course as one of their general education requirements.

This year, a past president of SWE (now a graduate student) worked with CE Chair Hughey to obtain campus diversity funding to form a graduate student group in the SOE. The organization, eWomen, has regular lunches for general discussion as well as special events. The kickoff event occurred in February 2005 with a seminar and discussion with Telle Whitney, President and CEO of the Anita Borg Institute. The organization has been tremendously successful, and has received funding from Google to continue its regular lunches. The eWomen’s Mission Statement is:

*eWomen has been organized to support and encourage women graduate students in engineering. Women are under-represented in engineering and face many social issues as a result. Problems such as stereotyping, underestimation of skill level, lack of peer support, and family issues act as deterrents to women entering and achieving full potential in engineering fields.*

*eWomen provides:*

- *An open forum for discussion of issues*
- *Supportive peer environment*
- *Faculty support*
- *Liaison with Department Chairs and Dean to communicate about problems that would benefit from changes in policy*

*eWomen activities include inviting role models in the field to speak about overcoming challenges and reaching out to undergraduate and K-12 females to encourage and support interest in engineering.*

The SOE and the PBS Division participate in the nationwide Mentor-Net Program which provides the e-mentoring network for women in science and engineering. Students who enroll in the program are provided with a mentor in industry who communicates with them electronically throughout their educational career about goals, coursework and other topics.

Professors Hughey, Manduchi, and Obraczka lead an NSF Research Experiences for Undergraduates site, SURF-IT ([surf-it.soe.ucsc.edu](http://surf-it.soe.ucsc.edu)), a summer research program with a focus on increasing the number of women and underrepresented minorities in engineering. In its first three years, the program provided research opportunities to 33 students, 60% of whom were female and 25% of whom came from underrepresented ethnic or racial groups. The program includes joint activities with the Chemistry SURF REU Site. Students are placed throughout the School of Engineering. A long-term goal of this program is to attract more of the students to UCSC for graduate study.

#### Engineering Diversity: Multicultural Students in the SOE

Our Multicultural Engineering Program (MEP) is the University level component of the well-known and respected Mathematics, Engineering, Science Achievement Program (MESA). MEP provides academic support services to assure greater opportunities for the preparation and retention of underrepresented minority and/or low income or educationally disadvantaged student populations. Students gain professional and leadership skills through special workshops educating them about engineering careers, graduate school applications, mentoring, and summer research programs. MEP also encourages students' involvement with local student chapters affiliated with national and regional engineering societies. These include the National Society of Black Engineers (NSBE), the Society of Hispanic Professional Engineers (SHPE), and the Society of Women Engineers (SWE), along with the Association for Computing Machinery (ACM) and the Institute of Electrical and Electronic Engineers (IEEE).

Additionally, in partnership with the Cabrillo College MESA California Community College Program (CCCP), the School of Engineering fosters collaboration between students from UCSC and Cabrillo College MESA CCCP who share common curricular goals and career interests in these fields. MEP encourages college students to consider educational opportunities at UC Santa Cruz and facilitates educational support services throughout the academic year specifically for Cabrillo MESA CCCP students. Included with these services is their students' use of the MEP study room at UCSC to complement the relationship between engineering and science students of the UCSC and Cabrillo campuses.

One of the most important aspects of the MEP has been a weeklong summer bridge program funded by the NSF program California Alliance for Minority Participation in Science and Engineering (CAMP) for entering frosh and transfer students. This program is a week-long team building experience with a focus on academic success, academic advising, Unix, mathematics, and social events with faculty and current students. Our

proposed bridge program is modeled on the successful MEP program, though with a higher level of academic content (programming) and continual follow-through throughout the academic year. The programs will be scheduled so that female MEP students may take part in the Welcoming Diversity program immediately after the MEP program.

The University of California Leadership Excellence through Advanced Degrees (UC LEADS) Program at UCSC seeks to encourage, mentor, and train educationally or economically disadvantaged undergraduates who are likely to succeed in graduate school. To realize its mission of increasing the diversity of graduate students in UC's doctoral programs in science, engineering, and mathematics, the two-year program provides students of high potential with educational experiences that increase their competitiveness for admission to doctoral programs. With the assistance of a faculty mentor, a student performs research activities on two campuses, at their home institution the first year and at a different campus their second year. Students receiving the UC LEADS fellowships must have had situations or events that adversely impacted their education, such as attending a disadvantaged high school, or not having any college graduate role models in their immediate family. Students also must be committed to promoting diversity in education. The program includes a systemwide symposium every spring.

The Baskin School in partnership with De Anza College and Foothill College has launched an effort to increase the number of underrepresented students who are entering the engineering profession. Under the auspices of the Collaborative for Higher Education and with the support of a multimillion National Science Foundation grant, the Developing Effective Engineering Pathways (DEEP) Program identifies and introduces students from under-represented populations to the field of engineering, and provides ongoing advising and encouragement so that they will have strong academic preparation in the required classes. A multi-faceted approach is tailored to meet the specific needs of students at the differing developmental stages of the educational process. Counseling, mentoring, tutoring and specifically tailored support will increase the success of these students at the community colleges and as they transfer to UC Santa Cruz. With a solid academic foundation built at the community college, these participants will successfully transfer to UC Santa Cruz and complete a four-year engineering degree. This program will be expanded to include Cabrillo College and Hartnell College as well.

The ACE Honors Program provides tutoring for many introductory mathematics and science courses. ACE is an intensive tutoring program that introduces complementary material in small discussion sessions. ACE sessions are led by full-time employees, and require quarter-long commitments from students. ACE is aimed at increasing diversity and success in mathematics and science. ACE has received the Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring. This award, presented by the White House, and administered by the National Science Foundation, is given to individuals or programs who have demonstrated an outstanding and sustained mentoring program to students underrepresented in science, mathematics, and engineering.



### Engineering Diversity: Curricular Approaches

Over the past few years, SOE programs have been active in curricular changes to enhance retention of students, female and ethnic minority students in particular.

Faculty members Charlie McDowell and Linda Werner introduced pair programming to the introductory Java courses. Pair programming is a technique that shows promise for increasing retention among beginning university programming students. The use of pair programming in introductory programming courses has the potential to increase the retention of both women and men. A large study of over 500 students at UCSC showed that students who paired had more confidence in their programming assignments and enjoyed completing the assignments more than students who programmed alone. Paired students were more likely to complete the course and, because of that, were more likely to pass the course. Both paired and solo students performed equally well on individually taken exams on the course material; both groups were as likely to pass the subsequent course where pair programming was not used; and were significantly more likely to have declared a computing major almost one year after completing the experiment.

In Fall 2004, CE Chair Hughey introduced and taught a new low-unit Hands-On Computer Engineering course. The course includes 4 weeks of digital logic (using plenty of LEDs), 3 weeks of programming in assembly language, and guest lectures with hands-on activities in networks and robotics. In addition to (mildly) technical homework problems, students must attend an organization meeting (e.g., ACM, IEEE, SWE, SHPE, NSBE), interview a senior design program group, attend at least one of the regular major-oriented faculty-undergraduate lunches, and for a final, take part in the senior design project presentations. The course includes 1 staff (faculty or undergraduate tutor) per 2-3 students, enabling a positive experience for all students. We have paid particular attention to ensuring several of the tutors are women, both to provide role models to new female engineering students, and to show to the male students that being an engineer is independent of gender.

### Engineering Diversity: Future Plans

During the coming five years, we intend to maintain the approaches and programs discussed above, and also will work to develop the following possibilities:

1. Creation of a Community of Learning for subpopulations of science and engineering students. This approach has been used successfully for women in science and engineering at some universities, and we are investigating this in collaboration with Crown College;
2. Continued sponsorship (leading to student travel fellowships) or direct support of conferences targeted for underrepresented groups, such as the Tappia Celebration of Diversity in Computing and the Grace Hopper Conference;
3. Development of new first-year courses targeted for retention of all students interested in engineering majors;

4. Establishment of undergraduate and graduate programs in bioengineering, an area that sees particularly high participation from women and minorities, for example 40% of bioengineering BS degrees were awarded to women in 2003. This statistic is reflected in part in our current enrollments in bioinformatics;
5. In cooperation with the Division of Physical and Biological Sciences, create a climate at UCSC so that we can propose to the National Conference of Black Physics Students to hold their annual meeting (one which draws about 100-200 students) on the UCSC campus around 2009-2010; and
6. Continued pursuit of broad faculty searches with an emphasis on diversity and excellence.

## **5. Summer Session**

To participate in year-round operations, several possibilities have been explored. We approach our role in year-round operations with commitment. We recognize the need to explore and resolve compensation and support issues with the other divisions as the campus implements an expanded summer session. To ensure smooth organization and coordination of the planning and implementation of a summer session, we recommend that central administration address the faculty compensation issues and provide adequate administrative support.

The School anticipates that re-entry and transfer students will be particularly interested in summer session as they are more strongly focused on completing their university education to start their career. Summer session offerings and consequently finishing their degree more quickly, may result in an acceleration of income earnings by approximately 25% for a student pursuing completion of an undergraduate degree. This is a significant incentive for students on financial aid or having a family to support. Summer offerings will also accelerate the completion of major degree programs and transitioning students from community college to the University of California.

The Silicon Valley Center presents enormous opportunities to attract students situated or returning to the Silicon Valley region. Courses will be offered to students returning home to the Silicon Valley area for summer break. The site can also offer bridge courses for transfer students.

Particular courses include stochastic methods, computer organization, discrete mathematics, introduction to networks and the internet, among others. Other summer session offerings could include courses in senior thesis, research and design internship with future expansion into basic undergraduate and special graduate courses.

## **6. Pacific Rim Roundtable for Technology and Society**

The regional advantage of the Pacific Rim will continue to be dominant in this decade. It is important that technologies be developed in the interest of society and its environment. A Roundtable Consortium for technology development in harmony

with society and environment will serve well the Pacific Rim industry and nations. The program goal resonates with UCSC's initiative for the STEPS program and will complement the UC's California ISI initiatives for CITRIS and QB3. This forum will also serve as an important gateway for UCSC to the Silicon Valley region and Pacific Rim countries including Japan, China, Korea, Singapore, Taiwan, India, Canada, and Mexico among others. The School has been approached for potential collaboration and exchange programs in recognition of our regional advantage and promise for digital engineering leadership. It is envisioned that a faculty member in the TIM program can lead this program in close consultation with the Dean of Engineering, the Dean of Social Sciences Division, and the Director of the Silicon Valley Center.

Below we summarize some ideas for taking advantage of the opportunities available in the Pacific Rim:

- Develop research and intern relationships with industries that are based in the Pacific Rim;
- Develop relationships with educational and research institutions in the Pacific Rim, for example the Center for Remote Imaging, Sensing and Processing headed by Prof. L. K. Kwok at the National University of Singapore;
- Develop student exchange programs with Pacific Rim Universities; and
- Target professional meetings in the Pacific Rim for participation.

## **7. Internship/CO-OP Programs**

Much of the true education of an engineer takes place outside of the classroom and university. For many engineers the motivation to excel in academic engineering derives from initial contact and involvement with actual engineering projects in an industrial setting. Engineering projects in an industrial setting allow exploration and specialization of career choices as well an opportunity to gain practical experience. In addition, students who have work experience also have more appreciation for classes and often do better than other graduates in career development.

We propose the development of formal internship programs in partnership with industry as a way to participate in this important process of academic and career development. Corporate internships and other incentives will benefit both the School and industry by encouraging enrollment in our programs.

The Electrical Engineering department proposes to develop a program to offer three levels of summer internships: sophomore year as entry-level technician, junior year as technician, senior year as engineer. An internship of three summers in a company adds appreciably to the quality of project work as it allows students more involvement with the project and the industry environment.

ASML (formerly Silicon Valley Group) and National Semiconductor have encouraged the School to develop programs aimed directly at specialties of Electrical Engineering analog circuit design that are in short supply. In addition, the School will actively

develop and publicize internship opportunities at other industrial concerns and the National Laboratories at Los Alamos and Livermore.

### **8. UCSC Silicon Valley Center**

Our program initiatives at the UCSC Silicon Valley Center (SVC) are aimed to achieve two goals:

- 1) Make pertinent undergraduate and graduate study more accessible to students and professionals who live and work in Silicon Valley; and
- 2) Increase UCSC's visibility and impact in Silicon Valley in the process.

The Technology and Information Management and Network Engineering programs have been high priorities for the School's SVC program because these programs cater to working professionals who wish to update and augment their skills. As such, the programs will attract more working students to SVC if they can be easily accessed. As students explore the educational opportunities at the Silicon Valley Center, they will become familiar with the programs offered on campus and highly qualified, motivated students may choose to pursue advanced degrees at UCSC. In 2006 we plan to move our MS in network engineering program to SVC, contingent upon the availability of the program space. We have also offered our first set of courses in Technology and Information Management. In fall 2007, we will launch a new graduate program in Technology and Information Management at SVC. In addition, we are developing plans to offer courses and projects in a proposed Masters of Engineering (MEng) program in Electrical Engineering at the SVC. These courses would be taught jointly at the UCSC main campus and the SVC and interactively videocast to the other campus.

The School anticipates SVC will enable the discovery of more opportunities to further our goals. In research, many of NASA's goals match our Areas of Excellence vision. We will link our research programs in California ISIs (CITRIS and QB3) and research centers and institutes (ITI, CBSE, CIMSS, SSRC, and ISSDM) to promote strong research collaborations with NASA, and national laboratories such as Lawrence Livermore Laboratory, Lawrence Berkeley Laboratory, Los Alamos Laboratory and the technology industry in the region.