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CALIFORNIA POLYTECHNIC STATE UNIVERSITY
San Luis Obispo, California 93407
**ACADEMIC SENATE**

# Academic Senate Executive Committee
# Tuesday, December 3, 1996
# UU 220, 3:00-5:00pm

10.5 and 11.5.96 minutes were removed

I. Minutes: Approval of the October 15 and November 5, 1996 Executive Committee minutes (pp. 2-9).

II. Communication(s) and Announcement(s):

III. Reports:
- A. Academic Senate Chair:
- B. President's Office:
- C. Provost's Office:
- D. Statewide Senators:
- E. CFA Campus President:
- F. Staff Council representative:
- G. ASI representatives:
- H. IACC representative:
- I. Athletics Governing Board representative:
- J. Other:

IV. Consent Agenda:

V. Business Item(s):
- A. **Academic Senate committee vacancies.**
- B. **Resolution on Change of Grades**: Freberg, chair of the Instruction Committee (p. 10).
- C. **Resolution on the 1996 Student Advising Survey: Report and Recommendations for Future Action**: Freberg, chair of the Instruction Committee (p. 11).
- D. **Resolution on the Establishment of a Summer Advising Program Committee**: Freberg, chair of the Instruction Committee (p. 12).

VI. Discussion Item(s):

**Distance Learning**: Freberg, chair of the Instruction Committee. The Distance Education Task Force is presently addressing several questions regarding distance education (DE) at Cal Poly (Where do we currently stand? Where should we be going? How does DE relate to our mission? What policies and resources do we need? What organizational structure works best for DE? How do we address faculty concerns about quality, personal contact with students, fears of being replaced by technology? etc.) Some of the task force members who will be joining us for this discussion include Tom Fowler (CAED), Carol Barnes (Extended University Programs) and Peggy Lant (CLA). (pp. 13-24)

VII. Adjournment:

Adopted:

**ACADEMIC SENATE**
**OF**
**CALIFORNIA POLYTECHNIC STATE UNIVERSITY**
**San Luis Obispo, California**

**AS- -96/**
**RESOLUTION ON**
**CHANGE OF GRADES**

WHEREAS, The current policy for change of grades (AS 384-92), enacted by the Academic Senate in 1992, has met the goals of the original resolution in the vast majority of cases; and

WHEREAS, Grade changes beyond the one year time limit stipulated by AS 384-92 are recorded automatically when a documented administrative or university error has occurred, and the Office of Academic Records has received evidence supporting the exception; and

WHEREAS, It is in the best interests of the university and of students to maintain an accurate historical record of student academic progress; and,

WHEREAS, There is a need for a consistent and fair policy for allowing students to complete a course when an I or SP has converted to F; therefore, be it

RESOLVED: That students eligible for enrollment shall be advised to repeat any course in which an I or SP has converted to F; and, be it further

RESOLVED: That students who are not eligible for enrollment be advised to either reapply and re-enroll through regular admissions or re-enroll through Extended Education in any course(s) in which an I or SP has converted to F, whichever is most appropriate; and, be it further

RESOLVED: That this resolution will supercede AS 439-95, Resolution on Change of Grade, which set up a subcommittee to review requests for grade changes that did not meet the provisions of AS 384-92.

Proposed by the Academic Senate
Instruction Committee
November 18, 1996

Adopted:

**ACADEMIC SENATE**
**OF**
**CALIFORNIA POLYTECHNIC STATE UNIVERSITY**
**San Luis Obispo, California**

**AS- -96/**
**RESOLUTION ON**
**THE 1996 STUDENT ADVISING SURVEY: REPORT AND RECOMMENDATIONS FOR FUTURE ACTION**

WHEREAS, Recent surveys have identified a definite concern on the part of students regarding the availability and effectiveness of student advising; and

WHEREAS, The Visionary Pragmatism report recommends that the University "offer proactive, consistent and accurate advising throughout the student's undergraduate experience;" and

WHEREAS, The Academic Senate Instruction Committee, with the support of the Academic Senate Executive Committee, has completed a comprehensive Student Advising Needs Assessment; therefore, be it

RESOLVED: That the Academic Senate shall receive and endorse the 1996 Student Advising Survey: Report and Recommendations for Future Action; and, be it further

RESOLVED: That the Academic Senate shall request that the President form a Task Force for Student Advising, with membership and charge as outlined in the Report; and, be it further

RESOLVED: That the Task Force should report back to the Academic Senate regarding its progress by the end of Fall Quarter 1997 and at quarterly intervals thereafter until its charge has been completed.

Proposed by the Academic Senate
Instruction Committee
November 18, 1996

Adopted:

**ACADEMIC SENATE**
**OF**
**CALIFORNIA POLYTECHNIC STATE UNIVERSITY**
**San Luis Obispo, California**

**AS- -96/**
**RESOLUTION ON THE**
**ESTABLISHMENT OF A SUMMER ADVISING PROGRAM COMMITTEE**

WHEREAS, Recent surveys have identified a definite concern on the part of students regarding the availability and effectiveness of student advising; and

WHEREAS, The Visionary Pragmatism report recommends that the University "offer proactive, consistent and accurate advising throughout the student's undergraduate experience;" and

WHEREAS, The Summer Advising Program has provided a valuable opportunity for new students to take the MAPE test, meet with faculty and continuing students in their majors, learn about CAPTURE, gain familiarity with the Cal Poly Catalog and Schedule of Classes, schedule Fall Quarter classes, and develop a tentative first-year course of study; and

WHEREAS, This important advising program currently lacks a formal organizational structure and is therefore at risk of discontinuance; be it therefore

RESOLVED, That the Academic Senate shall recommend that a formal Summer Advising Committee be established as a University-wide committee reporting to the Provost, with membership drawn from each College Advising Center, the College of Agriculture, Student Academic Services, Enrollment Support Services, Housing and Residential Life, and Student Life and Activities; and, be it further

RESOLVED, That the Summer Advising Committee will work in close cooperation with the Task Force on Student Advising until the latter completes its charge.

Proposed by the Academic Senate
Instruction Committee
November 18, 1996

# Moving Towards the Virtual University: A Vision of Technology in Higher Education

by Warren J. Baker
and Arthur S. Gloster II

ABSTRACT: California Polytechnic State University, San Luis Obispo, is exploring several cost-effective technology solutions aimed at improving learning productivity, reducing labor intensity, and providing new ways to deliver education and better services to students while enhancing the quality of instruction. Strategic planning and partnerships have been key to their progress to date. After decades of promises based on overhead projectors, video distribution, and other instructional technologies, the ability to improve instruction using information technology has now become a reality. By incorporating a wide range of digitized media into the myriad of curriculum-related activities fundamental to teaching and learning, the quality of both can rise.

A paradigm shift is taking place in higher education instruction, from a mode of faculty-student interaction occurring in fixed locations at specified times to one in which students can access the same instructional resources in a variety of forms, regardless of location, at their convenience. This is possible because several technologies have matured, supporting major changes in how instruction can be delivered to students on the campus, in their homes, or in their work places.

Escalating costs, declining support, increasing demand, and diverse demographics have placed significant pressures on higher education to become more productive. Careful analysis shows that the productivity improvements required cannot be achieved by increasing the workload of the faculty; in fact, any significant movement in this direction will only decrease the quality of instruction. There is simply no room left in the workday of a faculty member to teach more students. Rather, the focus for productivity improvement must be on learning resources that will improve retention and decrease the time needed to earn a degree.[1]

It is this realization that is leading to the paradigm shift towards an instructional model in which students gain access to information resources, faculty lectures and demonstrations, library and research materials, and

demonstrations, library and research materials, and conferencing and tutorials over networks from digital information organized in servers by the faculty. Students and faculty can "talk" electronically whenever they like. Assignments can be given and received electronically. Faculty can hold "virtual" office hours, freeing them from rigid schedules, and enabling students to obtain information with little waste of time and without sacrificing the fundamental, close-knit quality of the student-mentor relationship. In this developing model, faculty can become facilitators and guides for individual learners rather than simple conduits for transmitting information.[2]

Productivity gains can occur in greater retention, more efficient use of the student's time, easy access to group study over networks, better feedback to faculty, and organized self-assessment and self-pacing. Faculty and traditional classrooms are not replaced, but another dimension is added that greatly improves the efficiency of learning. Studies have shown that students supported by technology-mediated instruction required about one-third less instructional time than students using traditional lecture/textbook methods. Not only did college students using technology learn faster, six months after completing their studies, they tested better on the subject than their peers who had been taught in traditional settings.[3] Other studies have shown that people reluctant to speak in a group are often less inhibited by electronic communications. By increasing opportunities for interaction and participation, electronic scholarship offers a whole new range of pedagogical techniques with which to reach people who have been left out.[4] As this new process of using technology to improve learning develops, more students at every level, from elementary student to adult learner, will be able to take advantage of this type of instruction.

Technological advances to deliver entertainment or "video on demand" are progressing rapidly. The opportunity exists today to take that technology and apply it to education to overcome economic, cultural, and physical barriers to learning facing the nation as a whole, including continuous retraining of the workforce. This will require colleges and universities to mirror business and industry by delivering "just-in-time" rather than "just-in-case" education, and to pursue cooperative efforts with the private sector to achieve this vision.

California Polytechnic State University, San Luis Obispo (Cal Poly) is exploring several cost-effective technology solutions aimed at improving learning productivity, reducing labor intensity, and providing new ways to deliver education and better services to students while enhancing the quality of instruction. This article shares Cal Poly's experiences to date in creating a vision and plan to develop the infrastructure needed to transform the way education is delivered, presents steps that have been taken or are about to be taken to implement that vision, and details some of the many partnerships that have contributed to the plan's success thus far.

Strategic plans, goals, and issues

Since the mid-1980s, when the University decided to upgrade

its administrative computing systems, Cal Poly has aggressively pursued the use of information technology to transform educational services. By the early 1990s, strategic plans for an integrated, online administrative system (OASIS), voice-response registration, online library services, improved telephone service, a campus-wide fiber optic data network, and instructional access to UNIX had all been realized.[5]

Two years ago, Cal Poly's computing advisory committees embarked on another strategic planning effort to define the future role of technology in support of the University's instructional program. This effort coincided with a campus-wide reassessment of the University mission and academic calendar, adoption of a new strategic plan for the campus, CSU system-wide initiatives for using technology to support instruction (see Project Delta sidebar), and a decision to upgrade the central mainframe.

This planning effort was led by the University's Information Resource Management Policy and Planning Committee (IRMPPC) and the Instructional Advisory Committee on Computing (IACC). The IACC includes one faculty member from each of the University's six academic colleges, and representatives from the library, student association, and academic computing services. The IACC chair acts as liaison to the Academic Senate on instructional computing issues and also serves on the IRMPPC along with several faculty members and vice presidents, the library dean, an academic dean, a student representative, and the chair of the Administrative Advisory Committee on Computing.

After consulting with their respective college computing committees, academic departments, the Senate, and other constituency groups, the IACC produced a strategic plan outlining four major goals for academic computing:

* a networked instructional environment, based on universal electronic mail, shared information resources, and computerized classrooms;
* easy access to workstations and networked information services;
* institutional support for faculty and student development of computer-based communication skills; and
* simplified interfaces, procedures, and documentation for accessing networked information services.

The vision that emerged recognizes that technology can benefit learning when it (1) allows a student to take a more active role, (2) allows a teacher to express the content of a course in more than one format, (3) broadens the array of resources brought to a classroom or the student's workstation, (4) increases the opportunities for interaction between teacher and student and for interaction among students, (5) reduces barriers to University services, and (6) increases the productivity of those who support the learning environment.

As envisioned by the IACC, this "next revolution" will cross all disciplines, especially those which have not traditionally used computing in the past, and will emphasize content development, easy access, and information sharing, rather than focusing on the technology itself. Beyond the obvious need for technology enhancements, the IACC strongly

obvious need for technology enhancements, the IACC strongly recommended providing incentives and support to enable the faculty as a whole to develop the necessary skills and methodologies to conduct and publish research, create and deliver lectures, and interact with students in this new environment. Other policy/support issues included:

* considering professional development in the technology area when evaluating faculty for retention, promotion, and tenure purposes;
* supporting faculty with well-defined projects for experimenting with new technologies and innovative ways of employing them in the teaching, learning, and research processes; and
* providing instructional designers and technical support to assist faculty in developing content and integrating technology into the curriculum. In addition, a number of infrastructure issues were identified:
* adequate network connections to faculty offices and classrooms;
* network ports for students to connect portable computers;
* adequate network access from off-campus sites or residences;
* appropriately configured workstations;
* classrooms equipped with systems for displaying prepared lecture materials and sharing information resources; and
* online search and retrieval tools with graphical user interface.

The IACC plan was generally accepted by the faculty, despite reservations by some as to how it would be achieved technically, and what the impact might be on University resources and faculty workloads.

Implementing the vision: a MegaServer approach

After receiving the plan, the IRM Policy and Planning Committee began an intensive study of how to implement the vision. They spent several months analyzing the capacity of existing resources to support the vision and considering various alternatives before recommending going ahead with a plan to develop a multimedia "MegaServer" as part of the planned mainframe upgrade for the campus.

This MegaServer will provide faculty and students with on- and off-campus access to a full range of information technology resources (voice, data, video) in an integrated, networked educational environment. It will also facilitate local and statewide access to full-text articles and publications, electronic library services, databases, and digitized instructional materials, including slides, graphics, and full-motion video. It will also serve as an important node in a client/server arrangement, supporting campus-wide administrative services and functions.

Cal Poly envisions using this MegaServer approach to support its concept of a "virtual university" (see Figure 1), with many potential applications (see sidebar next page). The benefits for the University include (1) improved access by students enrolled in traditional programs offered by Cal Poly, (2) increased access to academic programs by non-traditional students, (3) better prepared students in K-12 and community college programs, (4) improved effectiveness

in uses of limited human, program, and financial resources, (5) new revenue streams to offset infrastructure and operating costs, and (6) incentives for faculty to develop new educational materials.

Figure 1: The virtual university
FIGURE NOT AVAILABLE IN ASCII TEXT VERSION

Progress to date

Cal Poly has already taken a number of steps to begin preparing for the virtual university.

In May 1992, the University began using two-way interactive video to deliver courses on campus, between the campus and its satellite agricultural facility 175 miles away, and to the Lucia Mar School District just 20 miles away.

The Faculty Multimedia Development Center (FMDC) was established in March 1993 to provide a variety of hardware, software, and consulting assistance to encourage and support faculty interested in developing and integrating materials into their courses or for delivery over the network. This facility is described in greater detail below in the discussion of support systems.

In September 1993, the University entered into a joint development agreement with IBM to develop and test the MegaServer concept, installing an IBM ES/9000-732 mainframe, LAN File Server/Enterprise System Architecture software, multimedia development workstations, disk storage, and other basic system components. As of spring 1994, the mainframe supported eight concurrent multimedia video streams or sessions to multimedia workstations in the FMDC and a specially equipped classroom. The MegaServer currently supports token ring network access, but most faculty offices and instructional facilities are now or will be equipped with Ethernet connections; extending full-motion video network access to Ethernet connections is a high priority in 1994.

Currently several classrooms are equipped with large-screen video projection systems, Macintosh and IBM-compatible computers or interfaces, and network connections to the mainframe. The University is committed to developing "electronic classrooms" equipped with high-resolution projectors, quality audio systems, and microcomputers with high-speed network access to the MegaServer. With the implementation of network-connected classrooms and the FMDC, faculty can already develop multimedia lectures in the FMDC, store these lectures on the MegaServer, then walk into an electronic classroom, log on to the MegaServer, and retrieve the same lecture for delivery to the students.

Limited resources will make it difficult to equip classrooms quickly enough to meet the anticipated demand for integrating multimedia into the classroom. (Equipping just one such classroom can cost more than $150,000.) To minimize costs and maximize flexibility, the University purchased several laptop computers (at $3,000 -$5,000 each) and portable multimedia-enabled graphics projectors (at $6,000 each) as an interim solution. This equipment can be checked out by faculty to create and deliver multimedia courseware in their

faculty to create and deliver multimedia coursewate in their office or any classroom. These initial efforts are introducing the campus community to the possibilities of the virtual university by allowing faculty to develop and use multimedia course materials while the MegaServer infrastructure is being more fully developed.

During winter quarter 1994, the University taped its first series of lectures for a course being developed by two faculty members in architecture and construction management. Lectures were taped in the campus video production studio, then rebroadcast over the campus television distribution system during the day and to campus residence halls at night. Students were able to view the lectures at set times or check out tapes of individual lectures to view at home, and to communicate with the instructors during office and lab hours and through electronic mail.

Cal Poly plans to develop the capacity to videotape and "digitize" entire lectures, which can then be edited, indexed, and stored on the MegaServer along with course materials. Both the lectures and materials can be retrieved later to supplement existing classroom instruction, or delivered as "on demand" courses in non-traditional settings, such as a graduate-level degree program for students who work full-time.

To digitize and store lectures on the MegaServer for "on demand" retrieval will require higher bandwidth than is presently available on the campus network. To provide this bandwidth, this summer the University is beginning to beta test an asynchronous transfer mode (ATM) network. IBM is providing optical storage, telecommunications technology, wireless LAN technology, and other support as needed to fully test delivery of full-motion video over the University's fiber optic backbone network. The FDDI hubs will be replaced by ATM hubs capable of using the existing fiber. The FDDI hubs will be recycled and used as routers on the network. In addition, the delivery of interactive video from the MegaServer to four other remote CSU campuses will be tested later this year.

The University is also experimenting with providing on-campus network ports ("docking stations" and "port replicators"). This will allow students to use their own laptop computers to access the network, high-resolution displays, and specialized resources.

Creating a support system

In conjunction with the Cal Poly/IBM MegaServer joint study project, the University established a new management-level position, director of multimedia development, to facilitate the use of the MegaServer and multimedia technologies to deliver education. Since July 1993, the director has concentrated on training faculty, developing instructional content, and coordinating and facilitating efforts by faculty to integrate information technologies into the curriculum. To date, nearly 100 faculty members have completed training or sought individual consultation, while another twenty have been helped with specific multimedia projects. IBM is also providing support to help faculty

develop instructional content under the joint study.

Staffing is required to support the faculty from the inception of an idea, through the many courseware development steps (see Figure 2), to actual delivery in the classroom.[7] At present, Cal Poly's communications services department has (1) two full-time technicians supporting its audio-visual/television production unit and distance learning facility; (2) one full-time technician to install, upgrade, and maintain new hardware and software in the FMDC; and (3) several student assistants to do graphic design, digitization, editing, and authoring tasks. In addition, there is need for one full-time instructional designer to assist the faculty in developing the interactive multimedia courseware appropriate to their curriculum. This need should disappear as more faculty become familiar with the techniques and grow comfortable using the tools. These pioneers will become mentors and valuable campus resources as they begin to share their discoveries with colleagues.

Figure 2: Courseware development
FIGURE NOT AVAILABLE IN ASCII TEXT VERSION

The Faculty Multimedia Development Center mentioned earlier is an important component of the support system. The center is equipped with both IBM and Apple authoring workstations and software tools, including image editors, video editors, and authoring packages. Other resources available to faculty include (1) scanners and digitizing stations to convert source materials from word processing, VHS tape, laserdisc, CD-ROM, illustrations, and artwork; (2) full video production facilities, including a videotaping studio; (3) hand-held video cameras for off-site work; (4) digital, video, and sound editing studios; and (5) in-house support for creating VHS tapes and CD-ROMs. These facilities were developed using existing audio-visual resources, combined with donated and discounted equipment.

The desire to use electronic technology in the classroom must, in the end, come from the faculty itself. To gauge faculty interest in this new technology, Academic Affairs encouraged faculty to submit proposals for release time and offered modest support to develop related projects this year. As it turned out, the campus was able to support only a small fraction of the expressed interest. Currently, faculty in nearly every discipline are involved in creating multimedia presentations for classroom instruction and professional meetings, and interest is steadily increasing. The campus is seeking matching funding, through various sources, to implement a more broad-based faculty training and development program, possibly in cooperation with other CSU campuses.

Reducing costs through partnerships

Cal Poly can only achieve its vision by forming partnerships in which the cost to operate and maintain the information technology infrastructure necessary to deliver education in the future may be partially offset by joint development projects with information technology vendors and other

institutions and organizations. These projects must be mutually beneficial for both partners, and involve research, development, and testing of new technologies with potentially wide application to higher education beyond this campus.[8]

Over the years, the University has been successful in developing strong and lasting partnerships with many information technology vendors, including Hewlett-Packard, Pacific Bell, AT&T, SP Telecom, and IBM, to name a few. IBM has been a particularly strong ally in this regard, providing hardware, software, training, and support for key infrastructure projects supporting administrative and instructional computing. With their support, Cal Poly has taken its first steps towards becoming a virtual university. Other corporate partnerships include the following:

* With more than 250 Integrated Services Digital Network (ISDN) lines on campus, providing simultaneous access to telephone and network services, the University is working with Pacific Bell to extend ISDN service to faculty, staff, and student residences, including private residence halls, in the local community in 1994.

* The University is partnering with BellCore to implement SuperBook, an electronic document "browser" that can deliver library materials, journal abstracts, and other documents with text, graphics, and video to the desktop via the network. One major hurdle to address involves licensing and copyright protection of intellectual properties owned by the University, publishers, or faculty. Transactional monitoring and pricing techniques are being explored in a joint study between Cal Poly, Bellcore, Lawrence Livermore Lab, Chevron, and Pacific Bell.

* The University is participating in a joint study with The Robinson Group (TRG) and IBM to test using touch-screen kiosks linked to the University's student information system to allow students to check their own records for information about grades, account balances, current term registration, and other routine requests currently handled in person, by phone, or through the mail. Also under review are methods to allow students to directly update data such as address changes.

* Most University faculty use Macintosh or IBM-compatible computers to develop course content. Since the MegaServer currently supports only IBM-compatibles, Cal Poly and IBM began beta testing Macintosh support earlier this year to extend full-motion network access to Apple computers.

* Another partnership with IBM is enabling testing wireless network access. This technology will permit faculty to access the MegaServer from any classroom, using a transmitter attached to a laptop computer. If viable, this could eliminate the need for specialized facilities, reduce costs, and greatly expand campus access.

Cal Poly continues to seek private and corporate grants and other external funding for related distance learning, multimedia, and telecommunications projects. A group of faculty has already submitted a proposal to a major national foundation interested in how this technology might be used to deliver a full-degree program to students at home. They are especially interested in the techniques faculty would develop to foster collegiality and shared group interaction between students and instructors and among the students themselves by using communication technology.

The University also recognizes the value of partnerships and collaboration with other education institutions:

* Cal Poly is working toward expanding network capability to other parts of California, through pilot projects with telecommunications vendors to develop and test high-speed, gigabit networks; has established distance learning partnerships with Bakersfield College and Cuesta Community College, to jointly develop and share course materials to facilitate instruction at both levels; is pursuing an ATM test link with CSU Hayward to allow the two campuses to share digitized course materials and interactive instruction; and is expanding access to K-12 schools, to provide college-level courses, including Advanced Placement, to high school students.

* The University's College of Engineering, along with the seven other universities in the National Science Foundation National Synthesis Coalition, are creating a National Engineering Educational Delivery System (NEEDS) that will not only advance the curriculum and enhance the classroom environment, but also promote faculty collaboration and give students direct access to a vast database.

* A major publisher has already shown considerable interest in the work of some Cal Poly faculty who are developing multimedia courseware. If local faculty don't develop their own materials, they can use courseware created by colleagues elsewhere and modified as needed for their classes. For example, Cal Poly and CSU Long Beach are jointly developing a distributed database of digital information (images, audio, full-motion video, and so forth) that will be able to accommodate potential contributions from faculty in any discipline and on any campus. Once developed, faculty on any CSU campus will be able to query the system by data type (audio, graphic) or subject, and retrieve files remotely for inclusion in a classroom presentation or courseware module.

* The CSU is exploring a partnership with the State University of New York (SUNY), the City University of New York (CUNY), and a private academic systems development firm to support faculty in creating mediated learning courseware in courses that specifically create barriers to students who would like to pursue science, mathematics, or engineering programs.

What's next?

Many faculty are burdened with older workstations incapable of supporting the full-motion video and other resources envisioned as part of the "virtual university." Over time these systems will be replaced, but it will take a concerted effort on the part of the colleges to ensure that faculty are equipped with the resources they need.

While almost anyone on campus with a computer and the proper connectivity can now participate in electronic mail and some other resources, the level of service is uneven across campus. With the growing interest in technology-mediated instruction, the IRM Policy and Planning Committee has recommended a new set of communications goals, which will mean much more sophisticated installations to all offices, classrooms, labs, and even the dorms. The network will become simply another campus utility, like the phone system. Higher

bandwidth will allow faculty to take full advantage of the information resources.

For off-campus users, private information servers and other public utilities will put these more sophisticated communications tools in the hands of students and members of the public wishing to link up with the University system. Cal Poly is already working with local government and industry leaders to make San Luis Obispo an "electronic village," by extending the network into the community as quickly as possible. Internet access and local network services are already being offered on a limited scale, but to truly bring the benefits of the virtual university to the home will require the support and cooperation of local telecommunications vendors.

We do not expect to achieve these goals all at once. Instead, we intend to proceed deliberately, while keeping abreast of changes in technology that may suggest new directions, and the developments in public and private communications ventures that will provide ubiquitous broadband networks. Still, we feel that we must begin proceeding now toward a networked instructional environment if we are to deliver the sort of education our students will need as we move into the next century.

Footnotes:

1 For a more extensive discussion on the issue of learner productivity and higher education, see D. Bruce Johnstone, "Learning Productivity: A New Imperative for American Higher Education," Studies in Public Higher Education No. 3 (Albany, N.Y.: Office of the Chancellor, State University of New York, 1993), pp. 1-31.

2 Norman Coombs, "Teaching in the Information Age," EDUCOM Review, March/April 1992, p. 30.

3 Chen-Lin C. Kulik and James A. Kulik, "Effectiveness of Computer-Based Instruction: An Updated Analysis," Computers in Human Behavior, Vol. 7, Nos. 1-2 (1991): 75-94. See also W.D. Sawyer, "The Virtual Computer: A New Paradigm for Educational Computing," Educational Technology, January 1992, p. 21; and Loretta L. Jones and Stanley G. Smith, "Can Multimedia Instruction Meet Our Expectations?" EDUCOM Review, January/February 1992, pp. 39-43.

4 See Richard Lanham, The Electronic Word: Democracy, Technology, and the Arts (University of Chicago Press, 1993) for a discussion on how "digitization of the arts radically democratizes them" (pp. 105-107).

5 These plans are described in Cal Poly's Campus Information Resources Plan: 1989-1994 (CSD-0369) and Campus Information Resources Plan: 1990-1995 (CSD-0918). Both are available from the CAUSE Information Resources Library (orders@cause.colorado.edu or phone 303-939-0310).

6 Master Plan for Higher Education, A Dream Deferred: California's Waning Higher Education Opportunities, California Postsecondary Education Commission Report 93, June 1993, p. 10; see also James Ogilvy, "Three Scenarios for

Higher Education: The California Case," Thought & Action: The National Education Association Higher Education Journal, Vol. IX, No. 1 (Fall 1993): 25-67.

7 The importance of centralized support is discussed in Fred Hofstetter, "Institutional Support for Improving Instruction with Multimedia," EDUCOM Review, January/February 1992, pp. 27-30.

8 Arthur S. Gloster II and James L. Strom, "Building Strategic Partnerships with Industry," Information Technology: Making It All Fit, Proceedings of the 1988 CAUSE National Conference (Boulder, Colo.: CAUSE, 1989), pp. 263-268.

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Sidebar 1:
Cal Poly:
Becoming an Electronic Campus

The University provides access to all major resources through its Fiber Distributed Data Interface (FDDI) backbone network that links thirty-nine core campus buildings and residence halls.

* The network serves more than 2,400 student residents on campus and provides connectivity to most of the University's 900 faculty and 1,200 staff.
* More than 13,000 of Cal Poly's 15,000 students have electronic mail accounts.
* More than one-third of the fall 1994 applications for admission were submitted in electronic form by incoming students.
* Online administrative systems provide timely access to student records, class schedules, financial aid, grades, and other information.
* Increased use of electronic mail, calendaring, online reporting and requisitioning, and tools such as Gopher and other online services has reduced costs and changed the way departments and individuals communicate and request information.

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Sidebar 2:
The CSU's Project DELTA

The California Master Plan for Higher Education, initiated in 1960, calls for access by all eligible students to the three-tiered higher education system in California. For the California State University, this means that all high school students graduating in the top third of their class are eligible for admission. Given current economic conditions in the state, it is unlikely that the CSU system will be able to expand its physical facilities to meet the increased enrollment demand generated by the master plan. Instead, the system must meet that demand by offering new ways to deliver the required education to students both on- and off-

campus.[6]

The CSU Commission on Learning Resources and Instructional Technology (CLRIT) was created to investigate options for using electronic technology in education. Its first major initiative, Project DELTA (Direct Enhancement of Learning Through Technology Assistance and Alternatives), provided seed money for multi-campus projects designed to:

* improve instructional quality and effectiveness;
* increase student access to higher education, by making access more convenient; and
* promote greater productivity and accountability in the use of public funds.

CLRIT is also providing oversight and guidance in the development of systemwide library planning through "Knowledge and Information for the 21st Century," a strategic plan for CSU libraries being prepared by the CSU Council of Library Directors, and in telecommunications planning through "Leveraging the Future: The Telecommunications Plan for CSU," being developed by the CSU Academic Communications Network Committee.

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Sidebar 3:

Virtual University: Potential Applications

Delivery of education to students in classrooms at multiple CSU campuses:

* capturing unique faculty experts and special lecturers on video as a way to augment lectures/courses
* downloading information from multiple sources into a multimedia presentation in the classroom
* teaching low enrollment courses at multiple campuses using two-way video
* evaluating student teachers remotely in the classroom and communicating via electronic mail
* teaching remediation courses at CSU campuses remotely from community colleges
* conducting library/text searches online
* requesting assistance via e-mail with timely responses from faculty
* interaction among students and between students and faculty utilizing bulletin board or conferencing software

Delivery of education to non-traditional, off-campus students in their workplaces or homes:

* specialized training and retraining programs for industry
* professional licensing/certification courses
* adult education/enrichment programs
* continuing education or degree credit programs
* Advanced Placement courses to high school students

Streamlined administrative services to students:

* apply for admission, financial aid, housing, and so

[illegible] Sun 12.3.96

# Education in a Tube

## *Two 'virtual universities' will operate over the Internet*

Since the early 1990s, campuses like Cal State Dominguez Hills and UC Irvine have been supplementing traditional teaching methods with "distance learning" techniques like videoconference classes and e-mail tutorials. But not until this fall did we see ambitious plans for two large, accredited "virtual universities" whose main campus will be the Internet.

In September, 13 western states said they will open the Western Governors University by next June. Gov. Pete Wilson later announced that California, rather than join the WGU, will establish its own virtual university based on the state's vast pool of academic and high-tech talent. At both institutions students will be able to attend on-line classes, download textbooks and meet with faculty via teleconference.

The WGU and California plans are now being breathlessly sold as the greatest educational innovations since Plato's academy. That remains to be seen, but most educators agree that virtual universities have the potential to:

- Improve professional recertification programs. Physicians could be required to demonstrate proficiency by computerized exam.
- Broaden educational access. Adults who don't have the time or money for night school could retool their skills to meet the needs of an ever-changing job market.
- Reduce operational costs, since state governments might not have to build expensive new campuses to accommodate the predicted tidal wave of college applicants.

In an effort to lure as many public and private colleges as possible into the virtual university project, the Wilson administration is now circulating a proposal emphasizing that each campus would be free to devise its own approach. Sacramento needs to come up with greater incentives than free choice, however, because many colleges, having successfully experimented with distance learning on their own, are unlikely to join the project without some kind of financial reward in sight.

Equally important is the need to carefully assess which types of high technology work best in which situation. For instance, Silicon Valley's Academic Systems Corp. has demonstrated that students taking its computerized algebra course achieve higher rates of passage than those taught in conventional lecture halls. On the other hand, Cal State's Monterey Bay campus had to scale back its distance learning plans after faculty members complained, saying among other things that they had become deluged with e-mail.

The biggest challenge for both Sacramento and the WGU will be changing federal and state laws that prohibit the use of student loans to take out-of-state classes. If they take this and other challenges seriously, there's no reason why a keyboard and cathode ray tube can't represent an exciting new avenue in higher education.

TIMES DEC 1996

Exec - 12/3/96

party for more timely evaluation and electronic fund transfers to students and campus
* analyze articulation requirements between schools, community colleges, and universities
* apply AACRAO Electronic Data Interchange (EDI) standards to build databases for capturing transcript/other data
* distribute test scores, grades, transcripts, coded memoranda, and other documents

==========

Warren J. Baker, President of California Polytechnic State University since 1979, is a leader in the implementation of academic computing systems. He chairs the California State University's Systemwide Commission for Learning Resources and Instructional Technology. Appointed in 1985 to the National Science Board (NSB), Dr. Baker has served on the NSB Executive Committee and chaired the Programs and Plans Committee for five years. In that capacity he conducted Board reviews of the National Supercomputing Centers and the NSFNET.

Arthur S. Gloster II has been Vice President for Information Systems at California Polytechnic State University, San Luis Obispo, since 1986, overseeing campuswide academic and administrative computing and communications. With more than twenty-five years experience, he is regularly consulted by the public and private sector on information technology issues and management. He served on the CAUSE Recognition Committee for the past three years, and is a regular presenter at CAUSE and other national forums on using IT to meet higher education goals.

Moving Towards the Virtual University: A Vision of Technology in Higher Education

State of California

California Polytechnic State University
San Luis Obispo, CA 93407



**MEMORANDUM**

**Date:** November 6, 1996

cc: Instruction Committee Membership

**To:** Harvey Greenwald
Chair, Academic Senate

**From:** Laura Freberg
Chair, Academic Senate Instruction Committee

**SUBJECT:** **Report on Student Advising Needs Assessment**

Enclosed is the final version of our report on the Student Advising Needs Assessment conducted by George Stanton for the Instruction Committee last year.

Student surveys have indicated a general dissatisfaction with the present state of student advising at Cal Poly. Our intent in pursuing this assessment was to identify specific areas of advising which are desired by students. We believe that the assessment indicates student support for a very wide range of advising services.

Because of the broad distribution of advising services across Academic Affairs and Student Affairs, we are asking that the Senate propose a Task Force, to be appointed by President Baker. This Task Force should be charged with developing a practical system for responding to the needs identified in the survey. Further details regarding the Task Force and specific charges are contained in the report.

We appreciate the support provided by the Senate for this assessment. We believe that this assessment provides an important opportunity to address a facet of student life that is central to our mission.

Thank you for your interest and continued support.

# 1996 STUDENT ADVISING SURVEY

## REPORT AND RECOMMENDATIONS FOR FUTURE ACTION

Academic Senate Instruction Committee

Student advising is a significant and resource-intensive institutional issue, affecting both speed of academic progress and quality of educational experience. Because of its significance, and its multifaceted nature, student advising undergoes periodic scrutiny and evaluation. At Cal Poly, the current environment of policy initiatives, institutional self-study, and vigorous attempts to increase the direct and readily visible benefits of programs has engendered an effort to investigate and assess our current student advising activities.

A number of past surveys have indicated that students are concerned about obtaining good advising service, and have some dissatisfactions with advising as they experience it on this campus. Most recently, in Fall of 1995, students were surveyed about their priorities and concerns regarding allocations of funds to be generated from a fee increase associated with the Cal Poly Plan, and their responses indicated that advising continues to be an important issue that they would like to see addressed. Consequently, the Instruction Committee of the Academic Senate undertook the development, administration, and analysis of a student advising needs assessment. Responses were obtained from 590 students. The sample was drawn from a stratified (lower and upper division) random cluster design, with intact classes as the selected units.

The following section of this report presents a summary of the results of this latest student survey on advising. This summary is followed by the Instruction Committee's recommendations regarding the establishment of a broad-based task force to study closely the details of the data from the present survey, to determine the need for obtaining any additional data, to engage in a thorough analysis of the entire issue of student advising services on this campus, and to develop recommendation for appropriate procedures and policies designed to enhance the quality of advising for all Cal Poly students.

## Survey Results

An annotated copy of the survey instrument is included in Appendix A. In addition to the sample mean responses presented there for each item, a detailed item-by-item analysis was performed for each item to determine if responses differed by college, sex, class level, transfer status, or any of the possible combinations of levels of these variables. This lengthy, detailed item analysis is contained in a separate supplemental document which is available in the Academic Senate office, along with a verbatim transcript of all student comments obtained from the survey. After analyzing and discussing these data, the Instruction Committee draws the following general conclusions:

- In addition to academic advising, students feel that a wide scope of advising services are important to them.

- Regardless of how far they have progressed towards graduation, students feel that advising services should be available to deal with personal support and role modeling. They are relatively less concerned that advising be available about social issues, although this is a strong concern of recently enrolled students.

- Students have high interest in academic scheduling and course selection issues, which increases as graduation approaches.

- Students have high interest in advising services which would enhance the personal and intellectual value of their academic experience. This interest is uncorrelated with expected time to graduation.

- Career-related advising increases in importance for students as they approach graduation.

- During the preceding quarter, only 27% of the respondents reported seeing their advisor more than once, and 46% did not see their advisor at all. Such infrequent contact provides little opportunity to obtain the range of advising services students report that they desire.

- Many item-level breakdowns by College, gender, level, and transfer status reveal significantly different responses by subgroup. These results need to be fully studied and interpreted in order to inform and appropriately focus future advising initiatives and endeavors.

## Task Force Recommendations

### A. Membership.

Given the existing diversity of positions, offices, faculty, and staff engaged in student advising, the increasing availability of student-accessible computer-based academic program information, and the expressed desire of the students for an advising program that extends beyond course selection issues, the Instruction Committee believes that student advising is a complex, multi-faceted issue deserving of serious, comprehensive, and thorough institutional attention. We therefore recommend that the President appoint a Student Advising Task Force, with membership drawn from students, faculty, and staff from both Academic Affairs and Student Affairs. In addition to appropriate administrative personnel, we recommend that membership on this Task Force include practitioners currently involved in existing advising efforts (since these programs provide the foundation from which any comprehensive and systematic advising revisions must emerge), as well as individuals who hold positions not traditionally associated with conventional academic advising, but who nevertheless have relevant interest, expertise, and experience.

### B. Charge.

- Consider the appropriateness of developing a generally acceptable definition, mission statement, and set of goals for student advising which specifies intended outcomes as well as services offered.

- Focus on developing and proposing guidelines for implementing a comprehensive advising program that is practical and feasible given Cal Poly's institutional realities, as well as its goals. Begin with existing systematic advising activities as a starting point for recommended revisions and transformations. Advising projects funded by Cal Poly Plan monies should also be monitored and analyzed.

- Determine a realistic timeline for piloting, phasing in, and fully implementing proposed reforms, taking into consideration the institutional pervasiveness of existing advising efforts, the range of themes and issues to be dealt with, and the corresponding attitudinal transitions that need to occur in students, staff, and faculty whenever significant program changes are developed and implemented.

- Propose an appropriate training program to develop competency in delivering any advising services that are significantly different from those for which advisors are currently prepared. Include resource allocation considerations.

- Propose an adequate incentive and reward system to encourage and retain competent advisors.

- Specify a program assessment plan to include analysis of the fidelity of the implementation of the program as designed, student satisfaction tracking, the responsiveness of the program to evolving student needs, program effectiveness in attaining its intended goals, and systematic institutional impact investigation.

# APPENDIX A

# ANNOTATED ADVISING SURVEY

# SURVEY
# ADVISING PROGRAM COMPONENTS

Since past surveys have indicated that advising is a high priority for students, the University is exploring appropriate revisions in how advising is handled on the campus. The purpose of this survey is to find out what students feel about a broad range of services that might be incorporated as components into a student advising program.

Please indicate how useful or important it would be to you, personally, to have each listed service available as part of a campus advising program. In making your determination at this time about the personal importance of these services, please:

(1) do <u>not</u> consider potential cost, or whether providing one service would eliminate another; and,

(2) assume that the services will be <u>competently delivered in an agreeable manner by well-trained staff</u>!

Regardless of how long you have been at Cal Poly, please indicate how important you think the service would be, or would have been, for you:

(a) in your first year here;
(b) mid-way through your program; and,
(c) in your final year here.

## I. ACADEMIC RELATED FEATURES

[NOTE: The goal of providing the following services would be to facilitate your progress through your academic program.]

1. Up-to-date information about your current academic record.

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| * 3.9 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.9 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 5.6 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

2. Up-to-date information about your progress towards your degree (e.g., units completed, units left until graduation, etc.).

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 3.8 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 5.1 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 5.7 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

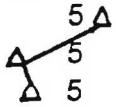
3. Frequent (e.g., quarterly) feedback on your status regarding critical requirements (e.g., ELM, Graduation Writing Requirement, specific program requirements, etc.).

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 3.6 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.5 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 5.2 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

*The numerical value preceeding each item is the total sample mean for that item. The mean is also represented with a "△" at the appropriate scale point.

4. Frequent (e.g., quarterly) review of grades and GPA, with specific attention to how to improve a low or declining GPA.

| | | not impt. | | | moderately important | | very impt. |
|---|---|---|---|---|---|---|---|
| 5.2 a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.4 b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.6 c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

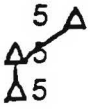


5. Accurate information about curricular changes and course substitutions.

| | | not impt. | | | moderately important | | very impt. |
|---|---|---|---|---|---|---|---|
| 4.5 a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.9 b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 5.3 c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

6. Next-quarter course scheduling advice.

| | | not impt. | | | moderately important | | very impt. |
|---|---|---|---|---|---|---|---|
| 5.3 a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.8 b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.8 c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

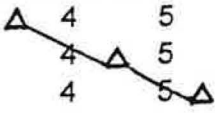


7. Discussion of long-range course scheduling options.

| | | not impt. | | | moderately important | | very impt. |
|---|---|---|---|---|---|---|---|
| 4.8 a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.8 b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.0 c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

8. Information about graduate or professional school requirements (e.g., application procedures and strategies, program characteristics, required admission tests, etc.).

| | | not impt. | | | moderately important | | very impt. |
|---|---|---|---|---|---|---|---|
| 3.4 a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.5 b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 5.3 c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |



9. Academic encouragement and motivation.

| | | not impt. | | | moderately important | | very impt. |
|---|---|---|---|---|---|---|---|
| 4.7 a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.6 b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.5 c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

[NOTE: The goal of providing the following services would be to enhance the personal and intellectual value of your academic experience.]

10. Academic goal clarification.

| | | not impt. | | | moderately important | | very impt. |
|---|---|---|---|---|---|---|---|
| 4.3 a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.5 b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.5 c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

11. Advice about specific class choices (e.g., helpful prerequisites, personal usefulness, appropriateness for career goals, etc.)

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.8 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.9 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.7 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

12. Discussion about your personal goals and how these might best be enhanced when selecting electives and GE&B courses.

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.4 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.4 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.1 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

13. Assistance with long-range academic planning in support of your personal and career goals.

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.7 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.9 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.7 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

14. Advice regarding improving your academic skills (e.g., study skills, learning strategies, time management, etc.).

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.7 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.3 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 3.8 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

15. Discussion of your reactions to your academic experience (e.g., important insights, implications, applications, etc.).

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 3.7 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 3.9 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 3.9 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

## II. SOCIAL ISSUES

16. Suggest and discuss personally beneficial co-curricular activities (e.g., events, programs, ASI, student organizations, community service, etc.)

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.0 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 3.9 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 3.7 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

17. Assist in developing relationships with other individual students in order to expand your sources of social resources and support.

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.4 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.1 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 3.9 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

18. Discuss social situations or events that are puzzling or troublesome.

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 3.8 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 3.5 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 3.3 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

19. Discuss social and intellectual diversity issues and concerns (e.g., dealing satisfactorily with peers who are from different backgrounds and have dissimilar or conflicting value systems, etc.)

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 3.7 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 3.5 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 3.3 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

## III. PERSONAL SUPPORT

20. Regularly schedule (e.g., twice-quarterly) contacts with you to discuss anything that you have questions or concerns about.

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.3 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.1 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.0 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

21. Provide general support and encouragement.

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.1 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 3.9 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 3.8 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

22. Provide a safe environment to discuss concerns, problems, and issues.

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.4 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.2 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.2 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

23. Provide support during periods of personal development and change.

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.1 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 3.9 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 3.8 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

24. Assist with ethical issues and value judgments.

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 3.4 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 3.3 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 3.2 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

25. Provide information about campus services and resources.

| | | | not impt. | | | moderately important | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.8 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.3 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.0 | c) | final year | 1 | 2 | 3 | | 5 | 6 |

26. Provide professional referral for personal issues requiring specialized assistance.

| | | | not impt. | | | moderately important | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.2 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.1 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.1 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

## IV. ROLE MODELING

27. Provide inspiration for personal and professional development.

| | | | not impt. | | | moderately important | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.2 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.1 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.1 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

28. Demonstrate effective and appropriate communication.

| | | | not impt. | | | moderately important | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.6 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.5 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.6 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

29. Demonstrate professional behavior in your chosen career area.

| | | | not impt. | | | moderately important | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.5 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.8 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 5.0 | c) | final year | 1 | 2 | 3 | 4 | | 6 |

30. Demonstrate personal and social responsibility and dependability.

| | | | not impt. | | | moderately important | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.5 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.5 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.6 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

31. Demonstrate mature and effective behavior.

| | | | not impt. | | | moderately important | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.6 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.6 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.7 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

## V. PERSONAL DEVELOPMENT

32. Assist with personal goal clarification.

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.4 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.4 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.3 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

33. Assist in developing your personal life plan (i.e., purpose, direction, etc.)

| not impt. | | | moderately important | | | very impt. | | |
|---|---|---|---|---|---|---|---|---|
| 3.7 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 3.8 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 3.8 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

34. Help in determining a workable way to monitor and assess your personal life plan.

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 3.6 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 3.6 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 3.7 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

## VI. CAREER-RELATED ISSUES

35. Assist in reviewing career options.

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.4 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 5.0 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 5.3 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

36. Assist in developing career-related goals.

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.4 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.9 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 5.2 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

37. Provide information about career-related resources and about career-related experiences (such as Co-op, internships, etc.)

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.6 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 5.4 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 5.4 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

## VII. GENERAL EFFECTS AND OUTCOMES OF AN EFFECTIVE ADVISING SYSTEM

In addition to providing specific services such as those described by the items in this survey, as well as a friendly and supportive relationship with trained staff, advising programs have been known to affect students in personally significant ways. Some such possible effects are described below. Students are, of course, affected in these ways due to a variety of influences,

only one of which might be their experience with their advisor. Please indicate how important it is, or might be, to you to experience such effects through an advising program.

1. Increased self-confidence.

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.4 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.2 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.1 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

2. Increased self-esteem.

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.3 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.0 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.0 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

3. A feeling of connection and identification with the University.

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.4 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.2 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.1 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

4. A sense of belonging to a profession/professional community.

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.2 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.5 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.7 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

5. Security and confidence in your career plans.

| | | | not impt. | | moderately important | | | very impt. |
|---|---|---|---|---|---|---|---|---|
| 4.4 | a) | first year | 1 | 2 | 3 | 4 | 5 | 6 |
| 4.8 | b) | mid-way | 1 | 2 | 3 | 4 | 5 | 6 |
| 5.1 | c) | final year | 1 | 2 | 3 | 4 | 5 | 6 |

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RESPONDENT CHARACTERISTICS:

1- Transfer Student? 42% Yes 58% No

2- Quarters at Cal Poly: $\bar{x}$=7.4

3- Sex: 41% Female 59% Male

4- Major: _____

5- College: 15% AG 3% ARCH 14% BUS 36% ENGR 11% LibArts 20% Sci/Math 1% UTCE

6- Class Level: 10% Freshman 12% Sophomore 26% Junior 45% Senior 7% Grad

7- About how many times did you talk with your advisor last quarter? _____ Times →

0=46%
1=27%
2=16%
3=6%
4=4%
5=2%
6=1%

8- Have you changed advisors for reasons other than changing your major?

92% No 8% Yes If yes, why?

9- Please add any comments or suggestions that you have about advising in general, or about any of the issues considered in this survey, on the back page.