University of California, San Diego

Self-Study for the Reaffirmation of Accreditation

February, 1998

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Certification of the *Self-Study* and *Data Portfolio Website*

To: Accrediting Commission for Senior Colleges and Universities
        Western Association of Schools and Colleges

From: University of California, San Diego
        9500 Gilman Drive
        San Diego, CA   92093

This *Self-Study* document, and the associated *Data Portfolio* on the Worldwide Web
(http://planning.ucsd.edu/accred-main.htm) are submitted for the purpose of assisting in the
determination as to whether or not this institution should have its accreditation reaffirmed by the
Accrediting Commission.

I certify that there was broad participation by the campus community. We believe the *Self-Study*
report and website together accurately reflect the nature and substance of the institution.

                    Signed:

                    Robert C. Dynes
                    Chancellor
                    February 3, 1998

I. INTRODUCTION

A. The Structure of the *Self-Study*

This document represents a key element of a community experiment. The Western Association of Schools and Colleges (WASC) sponsored a series of workshops held during the 1995-96 academic year to develop a new process for reaffirming the regional institutional accreditation of major research universities that would meet the need for public accountability while being more relevant, useful, and economical for the campuses. Frantisek Deak, Dean of Arts and Humanities, represented the University of California, San Diego (UCSD) as its Accreditation Liaison Officer (ALO) at the workshops. A salient feature of the proposed process that came out of these workshops was allowing universities to concentrate their self-studies on areas that "address topics that are consistent with the institution's own strategic issues and plans" while paying special attention to "the quality of undergraduate education." The proposed "New Visit Model" also allowed universities like UCSD to complement the topical studies with a separate "data portfolio" that would enable WASC to "assess and affirm an institution's compliance with the broad intent of the current standards." UCSD has made its *Data Portfolio* available on the Worldwide Web at <http://planning.ucsd.edu/accred-main.htm>. WASC commissioners discussed and accepted the proposal for this "New Visit Model" during their June and November 1996 meetings and WASC staff subsequently approved development of the online *Data Portfolio*.

Since UCSD's inception, undergraduate education has been the joint responsibility of its colleges and departments. Given the emphasis to be placed on the undergraduate program, Tom Bond, Provost of Revelle College, replaced divisional dean Deak as UCSD's ALO in May 1996. The final list of five topics stemmed from broad campus discussions and were sanctioned by Academic Senate leadership at the June 1996 meeting of the Senate-Administration Council (see section C.3 of this Introduction for more information on the Council). The campus formally proposed the topics to WASC on January 24, 1997. So, unlike past self-studies that have presented a comprehensive, integrated portrait and overall evaluation of UCSD, the core of this *Self-Study for the Reaffirmation of Accreditation* comprises five standalone studies of specific areas of concern, namely:

1. a review of assessment with regard to undergraduate outcomes and campus climate;

2. self-studies of the five extant undergraduate colleges;

3. how, and how well, the campus's academic departments are fulfilling their responsibilities for educating undergraduates;

4. how, and how well, the campus is dealing with transfer students from community colleges and other four-year institutions; and

5. computer and communication technologies as they affect instruction.

As a consequence of the new model and the identification of the topics of special interest at UCSD, Interim Senior Vice Chancellor Richard Attiyeh appointed a number of committees to insure broad participation in the accrediation process. An Oversight Committee comprising five administrators, three senior faculty, the chair of the Associated Students, and Assistant Chancellor Linda Williams — directly representing the Chancellor — received primary responsibility for the process. Sub-committees were formed for each area, and a separate working group coordinated the studies, designed and implemented the associated data portfolio on the Worldwide Web, and produced this document.

Befitting their focused nature and diverse authorship, as well as the consultative processes that produced them, the studies of the five areas listed above differ in approach, structure, and tone. Also, because the various study

groups wrote their sections with intelligent lay-people in mind as the intended audience rather than educational experts or informed faculty and staff, it was deemed appropriate to allow the inclusion of a significant amount of descriptive material along with analysis and recommendations.[1] The *Self-Study* concludes with some thoughts about the effectiveness of this experimental self-study process and next steps that UCSD could take in response to it.

In all, despite its novelty, or even perhaps because of it, UCSD is pleased to be participating in this experiment, and has thus far found it generally more helpful and less disruptive than previous reaffirmation efforts. The kinds of targeted studies the campus undertook for this new accreditation review process are typical in many ways of how the campus approaches evaluation and problem-solving on a day-to-day basis, which may help account for the relatively straightforward incorporation of this cycle of accreditation review into the flow of work.[2] Moreover, the freedom to concentrate on several areas of the campus's choosing has already succeeded in capturing the attention of key faculty, staff, and students in ways that the old comprehensive and more diluted approach did not.

B. A Brief History of UCSD

Because the five areas selected for special study exist in a larger institutional context, subsequent sections of this Introduction present, in turn:

- a brief description and discussion of some of the more unique aspects of UCSD's establishment and development (readers unfamiliar with UCSD will find the history important, if not crucial, to making sense of the campus's academic and social climate as well as its decentralized organizational culture and operations);

- a quick description of the current situation and campus organization;

- a summary of major changes since the last accreditation review and campus responses to issues raised by the last full accreditation review in 1986 and the interim review in 1990; and,

- plans the campus has in place or is developing to shepherd UCSD into the 21st century.

1. An Important Fact about UCSD

Colleges and universities trumpet their uniqueness and quality at every opportunity, and, in this regard, UCSD is no exception. In UCSD's case, the fanfare heard at its founding in 1960 has grown steadily over time for the simple fact that no other institution of higher learning in the United States in this century has accomplished so much so

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[1]   It is also probably worth noting that, because of the decentralized nature of responsibility and authority at UCSD (see part C.2. below, **Campus Organization**), much of the analysis and initiative that takes place with regard to identifying and solving problems on the campus occurs verbally and, frequently, out in the departments and administrative units rather than the central administration. The accomplishments of UCSD in its short history (see part C.1. of this introduction, **Many Reasons for Pride: Accomplishments and Rankings**, below) suggest that, overall, this approach has proven quite effective whatever its deficiencies might be in terms of documentation.

[2]   An excellent current example of which is the work and report of the joint Senate-Administration UCSD Task Force on K-12 Outreach, a group that was created and charged at the beginning of summer, 1997, after the campus had negotiated the content of this *Self-Study*. The process and product of the Task Force's deliberations are available on the worldwide web at this location: http://planning.ucsd.edu/K-12_Outreach/

quickly. Just over thirty-five years old, UCSD already ranks among the top 10 universities in the nation by a number of subjective and objective measures. Indeed, in the whole history of higher education in the United States, only the Johns Hopkins University, established in the last century, made its mark with comparable dispatch. As with Johns Hopkins, the founders of UCSD set out self-consciously to create a world-class research university. Their success in UCSD's first decade set the stage for subsequent successes that have engendered a collective pride and strong sense of uniqueness.

Having in mind a clear sense of UCSD's aspirations and attainments, then, provides a crucial vantage point from which to interpret and assess much of what one finds at the campus. It is true that, on occasion, accreditors from WASC and representatives of other agencies have encountered UCSD's pride and sense of distinctiveness as a rather prickly arrogance. At its best, however, the university community's strong and positive vision of itself simply helps fuel the drive for excellence that propels faculty, staff, and students as they strive to fulfill the university's state-mandated responsibilities to serve the common good through research and instruction. To the end of equipping the reader with an understanding of UCSD's record of achievement and the pride it inspires, this *Self-Study* therefore begins with a description and discussion of UCSD's brief but eventful history.

2. Higher Education in California

The University of California, San Diego traces its academic heritage to the renowned Scripps Institution of Oceanography (SIO), which traces its lineage directly from the University of California, Berkeley. The University of California (hereafter "UC"), in turn, was established as a separate entity within the Constitution of the State of California in 1868, giving it a degree of autonomy that remains rare for a public educational institution. As one of the many institutional progeny of the Morrill Land Grant Act of 1862, the UC was established primarily to disseminate practical knowledge and skills. As the state grew, and technology and scholarship advanced, expanding the boundaries of human knowledge and skills through basic and applied research became an integral part of that mission of service.

In 1903, as a consequence of UC's growing involvement in research, scientists from the Berkeley campus established a marine research station on San Diego bay in the boathouse of the Hotel del Coronado. That station became a separate part of UC in 1912, and The Regents named it the Scripps Institute of Biological Research in 1913. Subsequently, it was moved north to facilities in La Jolla, where SIO established itself as perhaps the world's foremost institution focusing on basic research in the oceans, global geophysics, and atmospheric systems.

Master Plan for Higher Education in California: Segmental Missions

In the early 1950s, higher education planners in California became convinced that demographic forces and economic imperatives would compel the state to expand its system of public higher education. Planning for several new campuses of UC had begun by the mid-1950s, and the southern part of the state seemed an obvious location for one of them. In 1960, as a direct result of the overall planning effort of the 1950s, California formalized its system of public higher education by delineating three different segments — the University of California, the California State University, and Community Colleges — and assigning specific entrance requirements and missions to each segment. While there was some necessary overlapping of the missions of the three segments, to the extent feasible the State assigned to each part of the system a unique sphere of responsibility and authority. Substantial portions of this *Master Plan for Higher Education in California* were subsequently enacted into law through the Donahoe Act of 1960. Here is the portion of the Act that, in essence, defines the "mission" of UC, although that word does not actually appear:

University of California

22550. The Legislature hereby finds and declares that the University of California is the primary state-supported academic agency for research.

22551. The university may provide instruction in the liberal arts and sciences and in the professions, including the teaching profession. The university has exclusive jurisdiction in public higher education over instruction in the profession of law, and over graduate instruction in the professions of medicine, dentistry, veterinary medicine and architecture.

22552. The university has the sole authority in public higher education to award the doctoral degree in all fields of learning, except that it may agree with the state colleges to award joint doctoral degrees in selected fields.

The State has reviewed the Master Plan several times since its inception and thus far has reaffirmed its basic tenets every time, maintaining UC's identity as the "primary state-supported academic agency for research" and its discretion with regard to providing "instruction in the liberal arts and sciences and in the professions." Through other studies and actions, it also became firmly established that UC would draw its undergraduate students from the top 12.5% of the state's high school graduates. UC's mission, then, is not amenable to unilateral revision or reform on the campus level.

One now commonly finds the mission of UC expressed informally in terms of what has become the most widespread formulation of the role of research universities in general, namely, "teaching, research, and public service." To some in the higher education community this expression of a research university's mission has become a cliché and is considered too vague to provide such institutions with useful guidance as they cope with a fluid and turbulent present, let alone as they move into the 21st century. But this has not been the experience of UCSD. Campuses of UC have significant latitude in how they fulfill their responsibilities, and, as the reader shall see, UCSD has made creative use of this latitude from its inception, and will continue to do so.

3. **Roger Revelle and the Founding of a New Public Research University**

During the late 1950s, Roger Revelle, then Director of SIO, led his colleagues and the citizens and community leaders of San Diego in proposing a campus for a site near the northern reaches of the city overlooking the oceanographic institution's campus along the shores of La Jolla Cove. Revelle envisioned the new university as a kind of "public Caltech" in terms of the quality of its faculty and students, and once The Regents gave their approval, was able to recruit a truly outstanding faculty to begin building the new campus and its curricula. The city and the military ultimately deeded 1,200 acres of prime coastal land to the university. In the fall of 1960, the arrival of fifteen graduate students in physics marked the opening of UCSD *per se*, and SIO's faculty, graduate students, and researchers became part of the new university.

a. Dynamic Strategy: Building from the "Top Down"

The enrollment of graduate students before undergraduates was emblematic of the strategy that guided the development of the campus. Revelle and his colleagues built the academic programs of the new university "from the top down," beginning with senior faculty and graduate students and then adding junior faculty and undergraduates. This strategy ensured the high quality of the programs, which benefitted students at all levels, and gave the campus both an extremely fast start as a research institution and, for a general campus of UC, a relatively narrow focus. The undergraduate curriculum that stemmed from this top-down approach was unusually rigorous and concentrated for a

public university and attracted 184 brave souls into UCSD's first class of undergraduates, which entered in the fall of 1964.

b. Dynamic Organization: The College System

A system of relatively autonomous liberal arts colleges operating within the context of a research university formed the centerpiece of the first *Academic Master Plan* in 1963. Planners intended the system to provide undergraduate (and, originally, graduate) students with a choice of several educational environments each of which would offer the intimacy of a small to medium-sized college, a distinctive and comprehensive curriculum, and ready access to the resources of a large university. The university revised the system early on to allow all upper-classmen to major in any discipline, regardless of college affiliation. Thus, the college curricula now encompass primarily, but not exclusively, the first two years of the undergraduate education.

Each college has an academic officer, the Provost, and a student affairs officer, the Dean of Student Affairs. All General Campus faculty are members both of a department and of a college faculty, and many also participate in interdisciplinary programs. The college faculties are subordinate units of the San Diego Division of the Academic Senate. Although departmental concerns tend to take precedence, faculty nevertheless take their involvement in college matters very seriously, particularly when it comes to shaping their college's curriculum and graduation requirements.

UCSD now has five undergraduate colleges, and is in the preliminary stages of planning for a sixth college, a now well-established process that piques the interest and stimulates the involvement of many faculty members. Listed in chronological order of their establishment, UCSD's current five colleges are:

Revelle College, opened in 1964, offers a broad lower-division curriculum that is the most structured of the five college programs. The college's educational philosophy encourages students to concentrate in a particular field only after they have acquired the breadth necessary to appreciate a wide range of disciplines.

John Muir College, opened in 1967, emphasizes the integration of student learning, interests, and activities. This philosophy supports flexible general education requirements that allow students to tailor their program to their needs while acquiring the elements of a liberal arts education.

Thurgood Marshall College, opened in 1970, stresses the application of knowledge to the amelioration of societal problems. It also encourages student involvement in college administration. Third College students, faculty, and staff exhibit a particularly strong commitment to building a multiracial and multi cultural academic and social community.

Earl Warren College, founded in 1974, focuses on preparing students for post-graduate activities. The curriculum is intended to help students identify their abilities and interests, examine career possibilities, and prepare thoroughly for their chosen professions. It emphasizes breadth at the upper-division level.

Eleanor Roosevelt College, opened in 1988, is committed to giving its students a global perspective. The curriculum provides a strong foundation in international studies, the comparative study of culture, and foreign language. The college also encourages its students to study abroad during the undergraduate years.

The campus has subjected the college system and the individual colleges regularly to intense scrutiny, with this *Self-Study* providing the most recent occasion for the colleges to engage in systematic self-reflection (presented in section III, **Undergraduate College Self-Studies**). Over the years, UCSD faculty and students have consistently reaffirmed the system's central role as the campus's "conscience of undergraduate education." UCSD gave the college system its strongest possible tangible endorsement in 1988 when it opened Fifth College (since renamed

Eleanor Roosevelt College), which was still in the early planning stages at the time of the last full-scale WASC review in 1986. Additionally, the systemwide committee that formulated the germinal academic plan for the proposed tenth UC campus in Merced recommended using the college system at San Diego as a model.

c. Dynamic Setting: Physical Resources

UCSD currently has approximately 1,960 acres of land in several parcels. The main campus and Scripps Institution of Oceanography together occupy 1,200 acres in La Jolla, large sections of which overlook the Pacific Ocean. The remaining 760 acres include the UCSD Medical Center in the Hillcrest section of metropolitan San Diego 16 miles south from the main campus ($\approx$54 acres), the Elliott Field Station 10 miles east of the main campus (324 acres), the Nimitz Marine Facility on San Diego Bay ($\approx$6 acres), an antenna farm and research facility at the summit of Mt. Soledad in La Jolla ($\approx$9 acres), and approximately 367 acres in four parcels located throughout San Diego County that are part of the UC Natural Reserves System.

C. Current Situation

1. Many Reasons for Pride: Accomplishments and Rankings

As mentioned earlier in this Introduction, no research university founded in this century has accomplished as much as quickly as UCSD. Perhaps the easiest way to convey UCSD's achievements in research and instruction as of this writing is with a simple list:

- In the 1995 National Research Council Rankings of all graduate programs in the United States, UCSD ranked 10th in terms of the number of its programs ranked in the top 10 of their disciplines (14).[3]

- UCSD ranks 6th nationally in the most recent National Science Foundation survey of federal research dollar obligations (1995).

- UCSD ranks first among the nine University of California campuses in the most recent National Science Foundation survey of federal research dollar obligations (1995).

- According to a recent study by Graham and Diamond (*The Rise of American Research Universities*, 1997), UCSD ranks first among public research universities, and fourth among all research universities, in the average amount of federal research money it receives per full-time faculty position.

- According to the Graham and Diamond study, UCSD ranks first among public research universities in terms of the number of publications in leading science journals per full-time faculty position.

- The UCSD faculty now includes 77 members of the Academy of Arts & Sciences, 12 members of the American Philosophical Society, eight members of the Econometrics Society, one winner of the Fields Medal in Mathematics, 138 Guggenheim fellows, 15 members of the Institute of Medicine, six members of the International Academy of Aeronautics, two members of the National Academy of Education, 12 members of the National Academy of Engineering, 59 members of the National Academy of Sciences, five winners of the National Medal of Science, five Nobel laureates, 3 winners of the Balzan Prize, and one winner of the Pulitzer Prize.

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[3] In addition, another 10 departments and programs were ranked in the top 20 of their disciplines.

- Measured in terms of the number of applications received from California residents per available undergraduate slot, UCSD now ranks second in the UC system, after Berkeley.

- Measured in terms of the SAT scores and high school GPAs of incoming students, UCSD now regularly vies with UCLA for second place in the UC system, after Berkeley.

- In terms of four and five-year graduation rates, UCSD now ranks second in the UC system, after Berkeley.

- For the last several years, UCSD's actual graduation rates have exceeded rates predicted on the basis of students' SAT scores and high school GPAs at entry.[4]

- In public perception surveys conducted by the campus in 1994 and 1997,[5] approximately two-thirds of those expressing an opinion rated the "overall academic quality" of UCSD as excellent to superior and 80% considered UCSD a "well-managed" institution.

2. Summary Statistics

Table 1.A, which extends over the following two pages, was drawn from summary information about UCSD posted on the Worldwide Web.[6] It presents enrollment statistics, academic performance, student housing data, faculty stastics, department rankings, financial data, etc.

3. Campus Organization

a. Academic Senate

Very early in the history of UC, The Regents delegated the authority over most of the academic life of the institution to the Universitywide Academic Senate. The San Diego Division fulfills the local responsibilities of shared governance and participates in systemwide governance through representatives to the systemwide committees and the University's Academic Assembly. The faculty also bears primary responsibility for monitoring, protecting, and enhancing the quality of the campus's academic life and it fulfills these responsibilities through a variety of processes that stretch from recommendations for hiring, tenure, and promotion, to the peer review of research and teaching. Since the last accreditation review the San Diego Division has established a representative assembly in recognition of its growth beyond the practical limits of the town-meeting mode in which it functioned during its first 30 years of existence. In all, the Division has always played a major role in planning and management of the campus, and it continues to do so in its present conformation.

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[4]   These are especially noteworthy statistics for two reasons. First, because the nature of the statistical projections factors out the effects of student SAT scores and GPAs, it allows one to assess how well the institution is retaining and graduating students independent of their level of academic preparation. So the fact that UCSD is now registering more qualified students than it has in the past does not by itself account for the observed improvements in retention and graduation rates. Second, the fact that UCSD's actual graduation rates started exceeding its predicted rates several years ago provides indirect yet substantive evidence that the campus's efforts to improve undergraduate education have started to bear fruit.

[5]   With overall margins of error of 3.5% for the 1994 survey and 5.0% for the 1997 survey.

[6]   At http://planning.ucsd.edu/anstuds/factsinbrieffork.htm

Table 1.A
UCSD Summary Statistics

Undergraduate Enrollments

	F85	F97
Enrollment	12,110	15,140
% ♀	45.8%	50.9%
Majors in percent		
Engineering	25.3%	18.5%
Sciences	27.1%	31.5%
Social Sciences	24.3%	28.2%
Humanities/Arts	8.0%	8.9%
Undeclared/Otr	15.2%	12.4%
Ethnicity in percent		
African Amn	2.8%	2.0%
Asian	12.4%	29.1%
Caucasian	66.6%	41.6%
Filipino	4.4%	5.5%
Mex-Amn/Latino	7.2%	10.7%
Native Amn	.4%	.9%
Unknown/Otr	6.6%	10.2%

Graduate Enrollments

	F85	F97
Enrollment	1,675	2,233
% ♀	32.3%	36.9%
Majors in percent		
Engineering	18.4%	21.8%
Sciences	30.2%	26.2%
Social Sciences	17.9%	17.0%
Humanities/Arts	22.6%	17.0%
Interdisc	.2%	2.2%
IR/PS	.1%	8.2%
SIO	10.6%	7.7%
Ethnicity in percent		
African Am	2.3%	1.9%
Asian	15.3%	9.6%
Caucasian	66.9%	54.9%
Filipino		1.3%
Mex-Amn/Lat	7.1%	6.3%
Native Amn	.4%	.3%
Unknown/Otr	8.0%	25.%

Health Science Enrollments, F97

MD	488
House Staff	508
Graduate Academics (Ph.D.)	194
Nurse Practioners	15
Allied Health Students	8
Total	1,213

Students Living on Campus, F97

Undergraduates	5,253
Graduate/medical students	1,310

Degrees Granted 96-97

Bachelors	3,319	50% ♀
Masters	364	44% ♀
C. Phil.	148	35% ♀
Ph.D.	281	30% ♀
M.D.	202	48% ♀

77% of F90 cohort graduated in 6 or fewer years

97-98 Underrgraduate Fees/Expenses

California resident	$ 4,198
California non-resident	$ 13,183
Res Hall (Rm and Bd)	$6,836

Geographic Origin of New Freshmen, F97

San Diego County	23%
Los Angeles/Orange Counties	40%
Bay Area Counties	19%
Other California Counties	14%
Out of State	3%
Foreign	1%

96-97 College Enrollment/Degrees

Marshall College	3,113	652
Muir College	3,339	846
Revelle College	3,158	599
Roosevelt College	1,964	377
Warren College	3,566	845

F97, Ten Most Popular Undergraduate Majors

General Biology	1,560
Biochemistry & Cell Biology	977
Psychology	942
Economics	631
Animal Physiology/Neuro	593
Communication	587
Political Science	582
Computer Science	437
Bioengineering/Pre-Med	319
History	313

F97 Application Information

	Fresh	Trans
Apps	25,102	4,419
Admits	13,303	2,525
Enrolled	3,268	965

F97 Entering Freshman Academic Preparation

Average GPA	3.90
Average Math SAT score	635
Average Verbal SAT score	598

Cumulative 96-97 UCSD GPA

Freshmen	2.71
All Undergraduates	2.98

96-97 Revenues by Source (x1,000,000)

Tuition and Fees	$ 100	9%
Federal Gov't	$ 271	23%
State Gov't	$ 225	20%
Private funding	$ 84	7%
Hospital Income	$ 297	26%
Ed Activities	$ 93	8%
All otr sources	$ 81	7%

96-97 Awards by Federal Agency (X1,000,000)

HHS	$ 134	50%
NSF	$ 48	18%
NASA	$ 12	5%
DoD	$ 35	13%
DoE	$ 14	5%
Other	$ 23	9%

UCSD Regional Economic Impact Estimated 96-97: $970 Million

Employment as of April 97

	Hdcnt	FTE
Faculty	1,439	1,278
Other Academic	3,321	2,023
Staff	12,993	9,500
Total	17,753	12,801

Miscellaneous Interesting Facts

Annual Payroll	$ 531 million
Library Volumes	2.5 million
Endowed Chairs	41
Scripps Vessels/platforms	5
Summer Session	7,684
UCSD Extension	27,974

Memberships & Awards	
Amn Acad of Arts & Sciences	77
Amn Philosophical Society	12
Econometric Society	8
Fields Medal	1
Guggenheim	138
Institute of Medicine	15
Int'l Academy of Aeronautics	6
Ntl Academy of Education	2
Ntl Academy of Engineering	12
Ntl Academy of Sciences	59
Ntl Medal of Science	5
Nobel Laureates	5
Pulitzer prize	1

Expenditures by Program (x1,000,000)		
Instruction	$ 216	20%
Research	$ 278	26%
Teaching Hospital	$ 263	25%
Academic support	$ 105	10%
Student Fin Aid	$ 48	4%
All other	$ 155	15%

94-95 National Rankings by Federal Funding for R&D	
Johns Hopkins	1
University of Washington	2
MIT	3
Stanford University	4
University of Michigan	5
UCSD	5

UCSD Buildings and Grounds	
Main Campus acres	1,157
Outlying areas acres	405
UC Natural Reserves acres	414
Parking spaces main campus	9,555
Buildings on main campus	356
Buildings off campus	192

Endowment Market Value: $73,000,000

National Research Council 1995 Graduate Program Rankings	
Oceanography	1
Neurosciences	1
Biomedical Engineering	2
Physiology	2
Pharmacology	3
Genetics	6
Geosciences	6
Cell & Developmental Biology	7
Anthropology	9
Political Science	9
Biochemistry	9
Molecular Biology	9
Psychology	10
Aerospace & Mech Eng	10
Number of programs in top 10 =	14
Number of programs in top 20 =	24

Overall National Ranking

Comprehensive Pub Univs	2
Comprehensive Univs	10

Because of the intense faculty involvement at all levels UCSD is extraordinarily decentralized and has vested significant responsibility and authority in the departments. Sometimes despite of this degree of decentralization, the relationships between the departments, the Senate, and the university administration continue to be unusually cordial and effective even when controversial issues arise. As both a consequence and cause of this positive working relationship, UCSD has evolved two arrangements that, from what the campus has been able to determine, have no exact analogue at the other UC campuses. First, the Chancellor and the Chair of the Senate co-chair the Senate-Administration Council, which meets monthly during the academic year, comprising all the major Senate Committee chairs and all the Vice Chancellors (see *Administration* below). Second, five representatives of the Senate sit on the campuswide Budget Committee, two as voting members and three as observers. In practice, however, the Budget Committee has consistently operated by consensus since its inception slightly before the last accreditation review a decade ago.

b. Administration

UCSD has three major academic administrative units, the General Campus, Scripps Institution of Oceanography, and School of Medicine. A separate Vice Chancellor manages each unit, and each unit conducts its own academic and space planning, subject to review by both the Academic Senate and the cognizant administrative committees that report to the Chancellor. In addition to the Senior Vice Chancellor - Academic Affairs, the General Campus also has a Vice Chancellor for Research and Dean of Graduate Studies. Four remaining Vice Chancellors oversee, respectively, Student Affairs, Resource Management and Planning, University Relations and Development, and Business Affairs.

Chancellor

UCSD's current Chancellor is Robert Dynes, who previously served the campus as Senior Vice Chancellor - Academic Affairs and, prior to that, as chair of the Physics Department. Dr. Dynes came to UCSD from Bell Laboratories where he earned an outstanding reputation for his research in experimental condensed matter physics

and as an administrator. The previous Chancellor, Richard Atkinson, who was serving at the time of the last full accreditation review, became President of the University of California in 1995, succeeding Jack Peltason.

Academic Affairs, Research, and Graduate Studies

The overall academic administration of the General Campus is the responsibility of the Senior Vice Chancellor — Academic Affairs (VCAA). Marsha Chandler is the current VCAA and just arrived at UCSD in August of 1997. She is a world-renowned scholar of comparative public policy and served as dean of the faculty of arts and sciences at the University of Toronto seven years prior to coming to UCSD. Dr. Chandler succeeds Robert Dynes, now Chancellor, who succeeded Marjorie Caserio, now retired and who served as the Interim Chancellor for UCSD between the departure of Chancellor Atkinson to the UC Presidency and the appointment of Chancellor Dynes. Marjorie Caserio had succeeded Harold Ticho, who was serving at the time of the last accreditation review in 1986.

The current Vice Chancellor for Research and Dean of Graduate Studies is Richard Attiyeh, an economist. This position was established in 1994 on the foundation of the office of Dean of Graduate Studies and Research, a post also held by Dr. Attiyeh, because of the increasing complexity and competitiveness of the academic research environment. Dr. Attiyeh also served as Interim VCAA after Robert Dynes assumed the office of Chancellor and before Dr. Chandler's appointment.

Presently, the General Campus has 24 departments organized into four disciplinary divisions (Arts and Humanities, School of Engineering, Natural Sciences, and Social Sciences), and two professional schools (Architecture — currently in suspension because of budgetary exigencies, with no permanent faculty or staff — and the Graduate School of International Relations and Pacific Studies), with each division and school operating under its own dean.

In 1986, at the time of the last full review, the VCAA had only recently established four divisions on the General Campus (Engineering, Natural Sciences, Social Sciences, Humanities and Fine Arts) and the corresponding divisional deans. While the visiting team thought that this strengthening of the "conventional, vertical disciplinary structure of the administration" held the potential to improve the efficiency of some administrative functions, it also expressed concern that the divisional framework would weaken UCSD's college system by eroding the authority of the college Provosts. It has turned out that the sphere of the deans' influence has indeed grown over time — but not, as feared, at the expense of the five college Provosts.

Marine Sciences

The Scripps Institution of Oceanography is organized into a single, interdisciplinary graduate department, which reports to the Vice Chancellor — Marine Sciences, who also serves as the Director of the Institution. Simultaneously, SIO operates within UC as one of the system's largest Organized Research Units (ORU). The state funded faculty of SIO constitutes a small portion of its total complement of academic staff, which includes a significant number of personnel solely devoted to research.

Health Sciences

The Vice Chancellor — Health Sciences has academic authority over the School of Medicine and oversees the UCSD Medical Center. Because the medical school operates under separate accreditation, this report does not give it further consideration.

D. Major Developments Since the Last Accreditation Review in 1986

1. Students

a. *Enrollments*

Table I.B shows that since 1986-87, undergraduate enrollments grew from 12,736 to 14,090 three-quarter average headcount (10.6%). General campus graduate enrollments increased from 1,520 to 1,938 (27.5%). There was very little change in enrollments at SIO, which went from 168 to 166 students, and the School of Medicine, which decreased slightly from 495 to 477 students. The post-baccalaureate Teacher Education Program has grown from 0 to 88 students. Total enrollmentsrose by just over 12%, going from to 14,919 to 16,759 students.

Table I.B
UCSD Three-Quarter Average Headcount Enrollments[7]
1986-87 and 1996-97

	1986-87	1996-97	% Change
Undergraduate	12,736	14,090	10 6%
Graduate	2,183	2,669	22.3%
Academic	1,520	1,938	27.5%
SIO	168	166	-1.2%
Post-Baccalaureate*	0	88	-
M.D.	495	477	-3.6%
Total	14,919	16,759	12.3%

* Teacher Education Program, culminating in a Teaching Credential

b. *Office of Student Research and Information*

In 1986 UCSD established the Office of Student Research and Information within the organization of the Vice Chancellor — Student Affairs. Previously, the Analytical Studies unit of Campus Planning had conducted much of the institutional research pertaining to undergraduate students primarily on an *ad hoc* basis. However, as the campus came to grips with issues related to undergraduate education as well as student life — issues that had been the focus of a UC-wide task force and which the last WASC visiting team touched on in its final report – it became clear that UCSD needed to devote more attention and resources to the creation and maintenance of a detailed longitudinal database of student information as well as the regular and systematic analysis and dissemination of such information, particularly with regard to undergraduates. The Office of Student Research and Information has since become the locus for most student-related research and extra-departmental assessment and developed the second major section of this *Self-Study* entitled Assessment of Undergraduate Outcomes and Campus Climate.

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[7] Enrollments are reported as three-quarter averages in the Introduction because they serve as the basis of State and university budgeting, space planning, and long-term projections. The next major section, **II. Assessing Undergraduate Outcomes and Campus Climate**, reports enrollments as of the third week of each fall quarter since fall enrollments are mandated for tracking retention, graduation, and other longitudinal statistics.

c.   Undergraduate Student Quality and Academic Interests

The quality of UCSD's entering freshmen as measured by high school GPAs and composite SAT scores has increased markedly in the 10 years since 1986-87 and academic performance after matriculation has improved commensurately. Student academic interests have also shifted noticeably since the last accreditation review. By discipline, proportional fall enrollment has dropped in the arts and engineering, increased in the humanities and sciences, and held almost steady in social sciences. The reader may find a more detailed description and discussion of these changes, along with those mentioned in the next brief section on *Undergraduate Ethnic and Gender Diversity*, in part II of this *Self-Study*.

d.   Undergraduate Ethnic and Gender Diversity

Since the mid-1980s, the campus also has experienced significant changes in the racial and ethnic diversity of its students (Table I.C — a more-detailed version of which appears in section II.B as Table II.C). For example, the undergraduate student body has gone from being two-thirds Caucasian and over half male in Fall 1987 to less than 43% Caucasian and 50% female in Fall 1997. African American students now comprise just 2% of the student body, a decrease of about one-third since 1987, while the representation of students with Mexican American heritage has risen from 5.5% to 8.6%, Filipino heritage has gone from 5.0% to 5.5%, and Native Americans from 0.5% to 0.9%. The proportion of students with Asian roots has increased the most, going from 13.7% to 29.1%, and the percentage of Latino students has held almost steady at approximately 2%. However, the pace of this diversification has slowed considerably, and even reversed for African American students, since the beginning of the 1990s.

Table I.C
Distribution of Undergraduate Students by Ethnicity
Fall 1987 and 1997

		Fall 1987	Fall 1997	Change
African American	N	402	303	-99
	%	3 0%	2.0%	-32.3%
Asian	N	1,868	4,399	2,531
	%	13.7%	29.1%	111.4%
Caucasian	N	8,719	6,298	-2,421
	%	64.2%	41.6%	-35.2%
Filipino	N	685	831	146
	%	5 0%	5.5%	8.9%
Latino	N	328	321	-7
	%	2 4%	2.1%	-12.2%
Mexican American	N	741	1,303	562
	%	5.5%	8.6%	57.8%
Native American	N	67	139	72
	%	0.5%	0.9%	86.2%
Other	N	779	1,546	767
	%	5.7%	10.2%	78.1%

The Regents' abolition of race or ethnicity as a consideration in admissions and the recent decision by the United States Supreme Court to let stand California Proposition 209's abolition of affirmative action will undoubtedly affect the campus's diversity, most probably continuing the decline in the proportion of African American and Latino students in the years to come. Many faculty, staff, and students at UCSD are profoundly

concerned about the short and long-term consequences of these actions by the university's Regents and California voters particularly because university policy and state law have now so completely circumscribed the campus's ability to take direct action to increase racial and ethnic diversity. There is thus keen interest in how the campus will implement the recommendations of the K-12 Outreach Task Force, published in the fall of 1997, and what will come out of the work of the Chancellor's Commission on Diversity/Outreach/Recruitment, which is scheduled to present its findings and recommendations in early 1998.

2. Faculty

From 1987 to 1997 permanent faculty FTE at UCSD increased from 740 to 823, an overall increase of 14%.[8] However, as with enrollments, growth in faculty FTE was not steady throughout the period. Class sizes and faculty instructional responsibilities also tended to increase during this 10-year period.

One of the key ways that the UC chose to deal with the prolonged budget crisis of the early 1990s was by offering a series of Voluntary Early Retirement Incentive Programs (VERIP) to faculty and staff. UCSD's oldest and most well-established departments were particularly affected by these early retirements and are now rebuilding, a process that is being bolstered by UCSD's reputation and outstanding prospects. As of 1997-98, the crisis appears finally to have passed and UCSD is poised to begin growing steadily again well into the next century with its enviable accomplishments and reputation intact. It remains to be seen, however, how well the campus is able to compete for academic talent and what the consequences of the abolition of affirmative action will be with regard to the ethnicity and gender of new UCSD faculty.

3. Academic Departments and Programs

Since the last accreditation review, the campus:

- received approval in 1988 to establish a School of Architecture (the administration subsequently put the school in suspension in 1993 because of extreme budgetary constraints);

- established three new departments, Cognitive Science in 1988 (the first of its kind) and Ethnic Studies in 1990, both under the purview of the Dean of Social Sciences, and Bioengineering in 1994 under the Dean of Engineering;

- approved a number of new undergraduate majors, Religious Studies in 1989, Women's Studies in 1991, Russian and Soviet Studies in 1992, General Physics - Secondary Education in 1992, Chemistry/ Environmental Science in 1992, Italian Literature in 1992, Human Development in 1994, and Latin American Studies in 1996;

- approved several graduate programs, in Materials Science in 1989, under the Dean of Engineering, Latin American Studies in 1989 and Ethnic Studies in 1995 under the Dean of Social Sciences, a consolidation of

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[8]   The reader may recall that overall enrollment at UCSD over the same period grew by approximately 12%. The slightly greater increase in faculty is accounted for by the fact that, prior to this year, faculty were allocated to the campuses according to enrollment weighted by student level, with graduate students carrying significant more weight that undergraduates. In Table I.A, graduate academic enrollment (Masters and Ph.D.) is shown to have grown by 27%, much greater than the 11% increase in undergraduates. This greater growth, combined with the weighting system then in effect, resulted in faculty being allocated to the campus at a rate higher than one would expect from looking at the overall degree of enrollment growth at UCSD.

the Ph.D. programs in various literatures into a single Ph.D. program in Literature and a DMA in Musical Performance in 1996, both under the Dean of Arts and Humanities; and

- started three new joint Ph.D. programs with San Diego State University, in Engineering Sciences in 1987, in Public Health (Epidemiology) in 1989, and in Language and Communicative Disorders in 1996.

4. Capital Program

Since the last accreditation review UCSD has built 16 new buildings over 50,000 assignable square feet (ASF), part of a total addition of well over two million ASF to the campus. During this period, the campus has completed more than $1 billion in capital projects.

At the time of the last team visit in 1986, UCSD had 76% of the instruction and research space it needed, based on the State's existing space standards, which had been developed in the 1950s by the California Council on Higher Education (CCHE), precursor to the California Postsecondary Education Commission (CPEC). By 1997, the building program had brought the campus to 94% of its calculated space needs. The budget problems of the early 1990s caused much concern about the ability of the campus's building program to keep pace with enrollment growth, which ultimately led to a significant slowdown in the capital development of the campus.

In November, 1989, The Regents of the University approved a *Revised Long Range Development Plan* (LRDP) to guide the physical development of the main campus properties. The 1989 revision was the fourth such comprehensive long-range plan for the campus, the previous three having been produced in 1963 (in conjunction with UCSD's original *Academic Master Plan*), 1966, and 1981. The horizon year for the 1989 revision is 2005. In accordance with the California Environmental Quality Act, the campus also prepared an Environmental Impact Report (EIR) assessing the environmental implications of implementing the Revised LRDP. The Regents certified the EIR at the same time they approved the Plan. A more detailed discussion of the LRDP appears below in the section E., entitled **Plans for the Future**.

In 1988, while the master plan study was under way, the Chancellor established a Design Review Board (DRB). The DRB is composed of professional architects, faculty from key Senate committees, and professional staff from campus offices concerned with capital and physical planning and project design. Its charge is to review the design of capital, landscape, or infrastructure projects in light of the *Master Plan* and subsequent, more detailed neighborhood design studies, and to make recommendations to the architect or designer and, when appropriate, the Chancellor.

Issues pertaining to the siting of buildings and roads, as well as proposed changes to the *Master Plan*, fall under the purview of the Campus Community Planning Committee (CCPC), which also reports to the Chancellor. A subcommittee of the CCPC, the Park Committee, monitors UCSD's stewardship of its protected natural resources. A second subcommittee, the Marine Sciences Physical Planning Committee (MSPPC), oversees physical planning for the facilities of SIO.

5. Financial

During the period from 1987 to 1997, UCSD's annual revenues grew from $630.5 million to $1.15 billion, an increase of 82 %. As with enrollments and faculty, this growth was not uniform throughout the period, but is nonetheless notable for growing at the same time that state support for higher education was decreasing. Significant increases in student fees account for some of the growth as well as significant growth in research grant awards to UCSD faculty.

6.   Responses to Concerns Raised in the Last Major Review

The visiting team in 1986 raised a number of concerns in its report, as did the Senior Accrediting Commission in its action letter reaffirming UCSD's accreditation. This section presents the major concerns expressed in those documents and brief statements describing the campus's responses.

a. Reassessment of Mission

> In its action letter reporting the reaffirmation of UCSD's accreditation after the visiting team had made its report, the Accrediting Commission called upon the campus to reassess its mission and concomitant responsibilities in light of its program and enrollment mix (undergraduate/ graduate), demographic trends, student interests, the importance of residential facilities and student life services for undergraduate students in particular, and its strategic position as the only public research university in its geographic region.

> In its 1986 report to the Commission, the visiting team wrote that it had some disquiet about |UCSD's] purposes, which in this context it preferred to refer to as its 'mission,' including the degree to which the University takes seriously...the major shifts in student demography taking place...and the degree to which the implications...of growth are being considered.

> The team...did not note much preoccupation with and institutional attention to these matters by way of an examination of mission. It will be extremely difficult for UCSD to examine in a serious way any of |its] major commitments....To fail to do so, while promoting comfort in the short run, will lead to some negative and unnecessary consequences later.

This *Self-Study* addresses these issues in three sections of this Introduction, **Higher Education in California: Missions** (section B.2.), and **Projected Enrollments and Long-Range Academic Planning** sections E.2. and E.3., respectively).

b. Faculty Recruitment

> The team was surprised to learn of the large number of positions, by some counts 130 or so, which are unfilled....Lag in filling positions in the recent past adds to, and in a sense compounds, the problems engendered by further growth....While there was quite a lot of talk on campus about the backlog of faculty positions, it seemed to the team there was an insufficient sense of urgency.

> ...the team noted little strategic planning in regard to the issue.

The previous team visited the campus just as it was beginning a massive recruitment of faculty. For about a decade, between 1975 and 1984, the campus had been very cautious in recruiting faculty because the State budget was very restrictive. In the middle of that decade, the campus actually went through an exercise to test how it might reduce the size of its faculty. In that climate, it was natural for the campus to hold as many positions open as possible.[9]

From 1984 on, the budgetary situation dramatically improved, and, by the time of the accreditation visit, the campus had begun to allocate faculty positions to departments. By the early 1990s, however, the budget

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[9]   Moreover, departments generally engaged in very few recruitments at any one time and did a very careful job of choosing candidates, and this remains the practice today. The campus regards it as natural that such care produces a high percentage of tenurable faculty.

situation took another turn for the worse, and some departments confronted reductions in faculty FTEs and the campus reserve was greatly reduced. Now the campus is facing the prospect of another period of strong, steady growth and concomitant faculty recruiting to expand departments and programs rather than just to replace retired faculty should soon start in earnest. To meet this challenge, UCSD's new Senior Vice Chancellor — Academic Affairs is in the process of initiating a strategic academic planning effort (see section E.3., **Long-Range Academic Planning**, below).

c.   *Undergraduate Education*

Balance of Teaching and Research

> **The visiting team questioned the degree to which undergraduate education is in fact valued and supported [at UCSD] in comparison to research in the activities of the faculty themselves.**

UCSD continues to see no reason to feel particularly alarmed or embarrassed about the quality of the education it offers undergraduates. According to the student-run *Course and Professor Evaluations* (CAPE), 80% of UCSD's undergraduates recommend the courses they are taking to their fellow students, and 88% favorably rate the teaching ability of their instructors. Nonetheless, in response to internal prompting from faculty and students and external prompting from State legislators and WASC, the campus has not rested on its record but rather instituted a number of improvements to undergraduate instruction. The most recent efforts are described in section **IV. Departmental Self-Studies** of this *Self-Study*.

In their public pronouncements, UC and UCSD proclaim the equality of teaching and research in the activities of the faculty. However, faculty at UCSD in fact harbor different opinions about the balance, or lack of it, in the relationship between the campus's two major activities and the pedagogical consequences of that relationship. In its submission for UCSD's mid-cycle accreditation report in 1990, the Committee on Educational Policy and Programs (CEP) granted that the emphasis on research does indeed tend to interfere with the attention that faculty members are able to devote to undergraduate education. In that response, which still applies today, then-Chair Richard Madsen attributed the imbalance between research and teaching at UCSD to several conditions:

- The institutional reward structure tends to reinforce the importance of research even though it does take performance in the classroom formally into account.

- The necessity for specialization in research is at odds with the need for a comprehensive and coherent curriculum for undergraduates; with little or no incentive for faculty to invest the considerable effort required to synthesize the content of ever-expanding disciplines the number of courses proliferates and the curriculum becomes disjointed.

- The desire of students for what amounts to vocational training that faculty are generally neither particularly interested in providing nor equipped to offer.

- Faculty lack the time and energy to conduct research and educate undergraduates equally well.

The degree to which this imbalance may *seriously* compromise the quality of undergraduate education is another matter entirely. At UCSD, it appears that undergraduate education has in fact fared quite well despite the importance ascribed to research. Along these lines, the Council of Provosts, comprising the chief academic officers of the undergraduate colleges, stated in their response to the visiting team's concern that problems with undergraduate education at UCSD stemming from the research focus of the campus are "neither rampant nor critical." Many on the faculty also point out that their involvement in research enables them to keep courses on

the cutting edge of their disciplines and also allows students many more opportunities for individual or small-group immersion in high-level scholarship and research than are available at less research-intensive institutions.

Breadth of Curriculum

> The team worries still about whether a broader variety of majors will not be needed as the University continues its further development. While the number of departmental majors itself seems adequate, the actual diversity of focus of orientation remains a concern if the University is to serve a more diverse student body.

The organizing philosophy of the campus's founders necessitated a relatively narrow curriculum (see section B.3., **Roger Revelle and the Founding of a New Public Research University**). Nonetheless, since the previous team's visit the campus has expanded the number of majors available to undergraduates by almost half, from 50 to over 70 separate offerings. These new majors stem not only from new subdivisions within existing departments, but also from the creation of three new departments, Bioengineering, Cognitive Sciences, and Ethnic Studies, and two new interdisciplinary programs, Japanese Studies and Religious Studies. These new academic units and programs represent a substantive academic diversification which has increased UCSD's appeal to students of various backgrounds, interests, and aspirations.

That said, however, the sciences do continue to account for approximately 30% of majors, and engineering another 20%. This distribution is clearly a continuing legacy of UCSD's founders, but it has not been static. During the mid to late 1980s, when the campus was last growing at a significant pace, there was some shift in the distribution of majors away from the sciences and engineering and towards the social sciences and humanities, while the arts remained constant. As the recession took hold in the early 1990s, shrinking State financial support compelled the university to postpone further growth even while demand for admission to UCSD continued to increase. Consequently, the campus became significantly more selective while also maintaining its longstanding policy of not admitting students according to major. Concurrently, the balance of student interest began to shift back to the sciences and engineering. The experience of the last decade illustrates the difficulty of trying to alter the disciplinary balance of the campus when large, external forces beyond the direct control of the institution are at work and when such forces, as in UCSD's case, reinforced its historical distribution of disciplines.

Efforts now afoot at the State level are likely to complicate any self-conscious effort on the part of UCSD to attract more students into the social sciences and humanities. Specifically, the Governor has proposed in his budget an augmentation to the budget of UC that, in 1998-99, would support 800 *additional* student FTE in engineering, particularly electrical and computer engineering. This represents the beginning of a plan to increase UC graduates in engineering by 40% by 2005-06, a targeted commitment of educational resources from the State that is unprecedented. Currently, the Democratic leadership of the legislature is fully committed to the plan, so it appears very likely that at least the augmentation for 1998-99 will survive into the final State budget.

As the campus now faces another prolonged period of significant enrollment growth (see E.2., **Projected Enrollments**, below) it is impossible to predict the directions that students interests will take. So, while there is agreement that greater disciplinary breadth and balance is desirable *in principle*, a number of factors weigh heavily against the prospects of success for intentionally causing sustained and significant increases in the proportion of social science, humanities, and arts majors. These factors include:

- the link between enrollment patterns and the allocation of faculty FTE;

- the imbalance of attention the campus receives from the media for its accomplishments in the sciences and engineering compared to its highly-ranked programs in the social sciences, humanities, and arts

(despite concerted efforts by the office of University Communications to draw more attention to UCSD's strengths outside the sciences and engineering);

- the university's commitment to tenure; and

- the State's recent commitment to promoting engineering.

Role of the Colleges and College Provosts

> ...considerable ambivalence remains on the campus about the College form of organization. It appears to have more support among undergraduate students than among faculty and administration. ... Despite the recent reaffirmation of support, powerful moves...have been made to strengthen the conventional, vertical disciplinary structure of the administration.... The position of Provost, as a result of these recent actions, will almost certainly be further diminished.... The Provosts themselves have come to accept a very scaled down conception of their office and of the support for it. ...it is dubious that the current level of support...is adequate. ... If much is to be expected of the Colleges, it would seem that more should be given to them so that they can succeed.

"Ambivalence" wrongly characterizes the campus's very strong commitment to the college system. Perhaps the campus debates about the worth, purpose, and structure of the system — debates that tend to rise in intensity just prior to the establishment of a new college, which was the case at the time of the previous team visit — tend to convey a false impression of ambivalence. In any case, the Council of Provosts does not see any evidence that their influence has diminished as the academic deans have come more into their own. As they did a decade ago, the Provosts continue to exert much broader influence on undergraduate education than do the academic deans.

Distribution of Undergraduates by Academic Discipline

> The distribution of undergraduate students in programs seems to the team ... to be something of a problem, although not all on the campus agree. If the number of majors in physical science, engineering and biology is summed, half of the undergraduate students are accounted for. ... A better balance would seem desirable....

The distribution of students among majors has changed since the last review. This *Self-Study* addresses these changes in section II. Assessment of Undergraduate Outcomes and Campus Climate.

Impacted Majors

> Since students are admitted to a College rather than directly to a major or a discipline,...controls on "over-enrolled" programs such as Engineering are a problem. Students must compete for entry into such majors later in their undergraduate career, leading to disappointed "floaters" who must make difficult and unwanted shifts in the educational major in midstream. It is not entirely clear that students are made sufficiently aware of the odds of their ultimately being accepted into impacted majors.

> It is recommended that the admission policy be studied to insert some corrections at the source or that the time of decision about entrance to the major be moved forward.

Since the visiting team expressed its concern about admissions to "impacted" majors, particularly in engineering, the Division of Engineering has instituted several measures that have ameliorated the problem. The

Biology department is currently facing a situation similar to that of Engineering and is working on ways to limit enrollments without having to resort to draconian measures.

Academic Advising

> Academic advising is handled in a somewhat sequentially split fashion. Initially, professional academic advising is provided in each College, concentrating on the first two years but continuing to an extent to track students through their entire college career....

> But the system basically proposes turning the student over to the major department for advising purposes once a major has been chosen. In practice that transition is not always easy or smooth. Academic advising at the department level is uneven, partly because no real rewards are available to faculty members who take advising responsibility.

Advising has improved in many ways since the last visit. Specific measures that campus departments and the colleges have taken to improve advising are described in section **IV. Departmental Self-Studies.**
Teaching Assistant Language Proficiency

> A key problem ... which almost certainly will become worse before it gets better, has to do with TA instruction.... TAs with language problems and cultural differences are a campuswide problem, although by no means restricted to UCSD.

In response to this concern UCSD no longer allows TAs whose native language is not English to teach until they have passed an oral and written test of proficiency in English.

Athletic and Classroom Space Shortages

> Athletic facilities and staff are inadequate for the program. There has been little emphasis on providing academic space outside the sciences, and classrooms are crowded.

UCSD has added several major multi-purpose athletic fields since 1986 and a major athletic facility (Recreation and Intramural Athletic Complex - RIMAC) and a large classroom building (Center Hall) that have largely ameliorated these problems.

Lack of Quality in Undergraduate Lab Facilities

> ...it is presumed that in some ways UCSD shares in the general obsolescence of ... instructional equipment experienced by universities generally in this country and thus its continuing needs are great.

The quality of equipment in undergraduate science labs has been considerably improved since the last accreditation team visit. The construction of new undergraduate laboratories for Physics and the renovation of the Undergraduate Sciences Building (Biology and Chemistry) were accompanied by a substantial amount of equipment money. During the past five years, UCSD has also committed a considerable amount of its equipment renewal funds to undergraduate laboratories, particularly in Chemistry. The campus has also completed an upper-division materials science lab that is more complete and modern than all but one or two in the country.

d.   *Academic Computing*

While there appears to be no computing emergency at the research level, there may be a lag at the undergraduate level in providing easy access to quite elementary computing, such as word processing....

Section VI. of this *Self-Study*, Technology in Undergraduate Education, is devoted to this complex set of issues.

e.   *Library*

...library space is one of the most critical problems UCSD must resolve. Space is presently inadequate to house collections, to provide seating for library users, and to provide adequate work space for even present levels of staffing.

In 1985-86, the campus had 59% of needed library capacity, according to official standards, and has now completed a major project that effectively doubled the size of the Geisel Library (previously University Library).

E. Plans for the Future

1.   Revised Long Range Development Plan (LRDP)

The LRDP is a general guide to land use on the campus. UCSD had needed more detailed physical planning for its academic programs and consequently undertook a master plan study in 1987. The study, done by Skidmore, Owings & Merrill, and Richard Bender, under the close supervision of a campuswide committee, produced a manual to guide the campus's physical development up to steady-state enrollments. As the basis of the study, the Academic Senate drew up a set of broad planning parameters, which reaffirmed the original vision of a campus enrolling 27,500 undergraduate, graduate, and professional students — first formally expressed in the 1963 *Academic Master Plan* — and called for setting aside enough space to accommodate up to eight undergraduate colleges, six professional schools, and housing for 50% of the student body Subsequently, the *Revised Long Range Development Plan* incorporated five general concepts from the master plan study, namely:

-   Neighborhoods, which are compact clusters of buildings and open space sited, designed, and landscaped to divide the campus into smaller communities, each of which has distinct boundaries and a coherent architectural character.

-   The University Center, which is a special neighborhood intended to serve as a center of academic, social, and administrative activity — a kind of campus "downtown."

-   Academic Corridors, which are purely conceptual overlays on the campus map intended to facilitate the physical integration of UCSD's largest departments (now dispersed in several, widely separated locations), to bring related departments into proximity, and to provide a consistent rationale for siting future academic facilities.

-   The Park, which comprises the campus's natural resources, such as the shoreline, hillsides, canyons, and its extensive eucalyptus groves, together with open fields such as glades and playing fields. Development within park boundaries is constrained or forbidden, depending upon the ecological sensitivity and value of a given area.

- ■ Connections, which are the roads, paths, public entries, landmarks, view corridors, and landscape features that tie the neighborhoods of the campus together and define access to the campus from the surrounding community.

2. Projected Enrollments

As in the 1950s with the original "baby boom," demographic projections of the 1990s indicate the coming of a significant and steady increase in demand for enrollment in UC, stemming this time from the so-called "echo" of the baby boom. Accordingly, planners within the UC system have developed a set of projections for UCSD that reflect its increasing popularity among applicants and the fact that, physically, the campus still has significant room for growth. However, until the long-term affects of SP 1 and Proposition 209 become evident it is impossible to model the ethnicity of future undergraduate and graduate classes with any confidence at all.

Starting in 1997-98, campus undergraduate enrollment is projected at 14,700 three-quarter average headcount, growing to 17,600 by 2005-06 (20%) at a rate of approximately 400 additional students per year, graduate enrollment is projected to rise from 2,150 to 2,960 during the same period (38%) at a rate of about 100 new students per year, and health sciences enrollments are projected to grow from 1,250 to 1,480 (18%) at a variable rate. Overall enrollment is projected to grow from 18,100 to 22,040 (22%). The LRDP, described above, set aside enough developable land to accommodate this kind of substantial growth.

3. Long-Range Academic Planning

Long-Range Academic Planning at UCSD has always been decentralized and usually undertaken at faculty initiative and with great care at the departmental or divisional level. This is a direct outcome of the shared governance that is characteristic of the UC system and the entrepreneurial spirit of UCSD's faculty members. Given the notable success of the campus, there understandably has been no hue and cry for massive reform of this approach. Most of the centralized long-range planning that bears the stamp of "academic" has been resource-oriented, driven ultimately by projections of enrollments and faculty, and has resulted in the kinds of very broad planning parameters that one finds expressed in the LRDP (27,500 undergraduate, graduate, and professional students, up to eight undergraduate colleges, six professional schools, and housing for 50% of the student body)

The UCSD faculty and administration have undertaken several efforts over the years to develop a comprehensive strategic academic plan for the campus. The most recent campus central strategic plan that examined demographics and societal need in some depth focused only on graduate education and enrollments and was developed and issued in the mid-1980s at the behest of the UC Office of the President. In the end, the various large-scale and long-term efforts have proven most useful in the processes of consultation and discussions they stimulated rather than their written products, which were either already obsolete by the time they reached final form or never progressed beyond multiple drafts. Since the departure of Associate Vice Chancellor — Academic Planning , Stanley Chodorow, centralized academic planning efforts have been on hold, although the campus has continued to prosper with the decentralized approach and broadly defined mission that has thus far served it so well.

Exactly how the new Senior Vice Chancellor and her Associate Vice Chancellor will shape the area of academic planning is just now starting to unfold. David Miller, professor of engineering and Associate Dean of the School of Engineering, has been appointed the new Associate Vice Chancellor for Academic Affairs, reporting to the Senior Vice Chancellor — Academic Affairs, and will assume his duties in January of 1998. Also, in a letter to all department chairs, program directors, and organized research unit directors dated December 15, 1997, and entitled "Charting the Course," Senior Vice Chancellor Chandler asked the question, "What should UCSD be like in 2005?" To help answer that question, the Vice Chancellor asked the letter's recipients to:

- distinguish their areas of strength that require continuing support,

- define and propose new initiatives that can build on existing strengths,

- look across traditional disciplines and the boundaries of departments, programs, and divisions, and

- recognize that developing our academic strengths requires not only academic FTEs, but also resources for staff and infrastructure to support these endeavors.

The Vice Chancellor noted that the process she proposes "is not one of centralization. It cannot be 'top down' planning; indeed, the bulk of activity will take place in divisions, departments, programs, and colleges....The role of Academic Affairs is to establish the general framework, to stimulate divisional planning and to facilitate cross-divisional initiatives." Vice Chancellor Chandler requested that plans be sent to the divisional deans by February 28, 1998. In a letter to all the managers regarding the 1998 campuswide Management Retreat, scheduled for February 6, Dr. Chandler announced that the theme for the day will be "UCSD in 2003." There will be four panels, with each focusing on one question:

- What will the impact of projected undergraduate growth be on UCSD's organization and infrastructure?

- How will UCSD as a traditional research university respond to the need to prepare for the changing ways of providing access to student learning, the changing locations of student learning, and to utilize technology effectively?

- In light of Proposition 209, how will UCSD progress in diversifying its student population and workforce?

- Giving the prospect of significant and rapid change, how will UCSD maintain its quality and manage the issues of accountability and ethics?

Clearly, the planning processes the Senior Vice Chancellor has initiated will still be in their early stages when the accrediting team makes its visit to UCSD in mid-March, 1998, and will continue after the team's departure.

4. Long-Range Capital Planning

Long-range capital planning at UCSD is a continuous, iterative process that relies heavily on consultation with faculty, particularly members of the Chancellor's Capital Outlay and Space Advisory Committee (COSAC). Long-range space planning efforts for academic departments have recently included review and development of State and local UCSD space standards, analyses of teaching space utilization, and assessment of departmental space needs. The current long-range capital program for the General Campus and SIO to 2010 projects the addition of approximately 900,000 ASF, renovation of another 500,000 ASF, and the construction of two large parking structures totaling about 600,000 gross square feet (GSF). The availability of funding is, of course, a key concern for future capital development, especially as plans continue to advance for the opening in the central valley of a tenth campus of the university.

II. ASSESSMENT OF UNDERGRADUATE OUTCOMES AND CAMPUS CLIMATE

A. Introduction

At UCSD, institutional research and student outcomes assessment is a decentralized activity. Major responsibility for collection of institutional research data is divided between the Office of Graduate Studies and Research (OGSR), the Campus Planning Office, and the Office of Student Research and Information/Student Affairs. Given the principle mandated by WASC for "new visit models" in which "the process would seriously engage issues of effective teaching and student learning," this section on assessment of undergraduate outcomes was considered to be an essential part of this Self Study. This is also consistent with the emphasis being given to assessment at the national level.

Although assessment has played an important role in UCSD's institutional life since the campus opened, its scope has broadened substantially in recent years. Traditionally, assessment has been directed toward academic programs, dealing primarily with entering skills, grades, and knowledge in the major field of study. In recent years, however, assessment has focused on both the academic and social environments in which student learning and development takes place. As with most institutions, UCSD is a complex enterprise - one made up of a host of academic and student support programs, services and activities — each of which contribute to the mission and goals of the institution as a whole. And like most, UCSD is accountable for its products — education and research — to multiple constituencies (students, alumni, legislators, and society, to name a few). In this complex environment, assessment and evaluation activities are carried out as an aid to understanding and improving the academic and social lives of students, expanding the knowledge base about student progress and development, and assessing institutional effectiveness. In addition to traditional assessment activities associated with classroom instruction (such as grades and tests),

- all undergraduate and graduate programs are reviewed and evaluated on a five to seven year cycle (these reviews are used by departments, the VCAA, and the Graduate Dean in resource allocation);

- students are surveyed in every class, in every quarter, to determine the degree to which they are satisfied with the quality of instruction and course content (results are shared with the instructor, department. and College Provosts and used in promotion and merit increase reviews);

- the impact of student characteristics (ethnic, cultural, economic) on retention and graduation rates is closely monitored and assessed;

- bachelor degree recipients are surveyed one, three, and five years after graduation in order to gather information on their post-baccalaureate activities and to assess the extent to which UCSD contributed to their development in several skill areas (results are of particular use to College Provosts and Career Services personnel);

- placement tests in mathematics, foreign language, writing, and other subjects are used to inform the advising process for all new students;

- the ACE freshman survey is conducted triennially in order to monitor the changing goals, aspirations, values, and attitudes of first -time freshmen (used primarily by the Colleges' Deans of Student Affairs);

- the relationship between student characteristics, academic preparation and academic performance at UCSD is closely monitored and assessed (used by the Academic Senate Committee on Undergraduate Admissions and Student Academic Support Programs);

■ exit interviews are conducted with those students leaving UCSD who come to the attention of the College Deans (financial and personal reasons predominate);

■ the performance of undergraduates on professional school entrance examinations. such as LSAT, MCAT, and GRE is monitored and assessed;

■ the effectiveness of outreach and student service programs is periodically evaluated (the Vice Chancellor of Student Affairs uses these data to review policies and procedures) ;

■ needs assessment and program evaluation studies are conducted in response to ad hoc problems and issues as they arise.

B. Undergraduate Enrollments/Academic Performance

At UCSD, commitment to the diversity and quality of the student body is an important institutional goal. Some of the quantifiable measures of success in this regard are defined as higher participation rates of California's ethnically and culturally diverse groups, improved scores on standardized tests of admitted students, increases in retention and graduation rates, and improvements in academic performance.

Data on student characteristics, enrollment patterns, admissions scores, graduation rates, academic progress and performance are contained in historical data files secured and maintained by the Office of Student Research and Information/Student Affairs (hereafter referred to as SR&I) . These data, published annually in the *Student Digest, Student Profile, Degrees Conferred,* and *Retention and Graduation Report,* form the foundation of SR&I's student information services. These data are not only important in assessing the institution's progress toward meeting its educational goals, but in many cases, they set the stage for subsequent interpretation of the learning that occurs throughout the educational process.

1. Undergraduate Enrollments: A Decade of Change

Over the past ten years, total enrollment at UCSD (including graduate students) has grown by more than two thousand students (12%) — from over sixteen thousand (16,605) to over eighteen thousand students (18,667). Undergraduate enrollments account for 75% of the increase — from 13,589 in 1987 to 15,140 in 1997 — representing an undergraduate enrollment gain of 11% (Table II.A).

Table II.A
UCSD Campus Enrollment: 1987-1997

	1987	1997	Change
Undergraduates			
Lower Division	7,006	6.246	-11%
Upper Division	6,583	8,894	+35%
Total Undergraduate:	13.589	15.140	+11%
Graduate/Professional			
Graduate/SIO	2.045	2.314	+13%
Medicine	971	1,213	+25%
Total Graduate:	3,016	3.527	+17%
Campus Total:	16,605	18,667	+12%

With expansion has come changes in the characteristics of students seeking to enroll at the university. Indeed, as the data in the tables below attest, the demographic and academic performance profile of undergraduates on the San Diego campus has changed considerably over the years. For example, as more and more women have sought to enroll at UCSD, undergraduate men, who were very much in the majority on the San Diego campus in 1987, are now more equally represented with women (see Table II.B).

Table II.B
Undergraduate Enrollment by Gender

	1987	1993	1994	1995	1996	1997	1987-1997 Change
Male	7,376 (54%)	7,352 (51%)	7,240 (51%)	7,505 (51%)	7,322 (50%)	7,436 (49%)	+1%
Female	6,213 (46%)	7,008 (49%)	7,080 (49%)	7,341 (49%)	7,301 (50%)	7,704 (51%)	+24%
Total:	13,589	14,360	14,320	14,846	14,623	15,140	+11%

The ethnic profile of UCSD's undergraduate population has also changed considerably over the years (Table II.C). When compared with 1987 figures, Asian-American and Native-American enrollments have more than doubled. In 1987, there were 1,868 students of self-identified Asian heritage enrolled on the San Diego campus (representing 14% of the total undergraduate population); today, there are over four-thousand (4,399, representing 29% of the total). For Native-American students, the current enrollment number is 139; in 1987 it was 67. Over the past ten years, enrollment gains have also occurred for Mexican-American (+76%) and Filipino-American students (+21%). On the other hand, enrollment declines have occurred for African-American (-25%) and Caucasian (-28%) students. Enrollment trends by ethnicity have been used in Student Affairs to assess progress toward meeting the goals of the Student Affirmative Action Plan and for assessing the effectiveness of outreach, recruitment and retention efforts. And while the campus has made progress in improving the diversity if its undergraduate

Table II.C
Undergraduate Enrollment by Ethnicity

	1987	1993	1994	1995	1996	1997	1987-1997 Change
African Am.	402 (3%)	362 (3%)	355 (2%)	324 (2%)	299 (2%)	303 (2%)	-25%
Asian	1,868 (14%)	3,024 (21%)	3,401 (24%)	3,964 (27%)	4.139 (28%)	4,399 (29%)	+135%
Mexican Am.	741 (5%)	1,220 (8%)	1,341 (9%)	1,344 (9%)	1,300 (9%)	1,303 (9%)	+76%
Filipino	685 (5%)	624 (4%)	683 (5%)	747 (5%)	803 (5%)	831 (5%)	+21%
Latino	328 (2%)	345 (2%)	344 (2%)	318 (2%)	316 (2%)	321 (2%)	-2%
Native Am.	67 (0.5%)	127 (1%)	133 (1%)	125 (1%)	122 (1%)	139 (1%)	+107%
Caucasian	8,719 (64%)	7,341 (51%)	6,743 (47%)	6,623 (45%)	6,231 (43%)	6,298 (42%)	-28%
Other	779 (6%)	1,317 (9%)	1,320 (9%)	1,401 (9%)	1,413 (10%)	1,546 (10%)	+98%
Total:	13,589	14,360	14,320	14,846	14,623	15,140	+11%

population since the last accreditation review, the enrollment trend for historically underrepresented students (African American, Native American, and Mexican-American students) during the 1990s has been somewhat flat or, as in the case of African Americans, downward. With the Regents' adoption of Resolution SP-1, eliminating race, religion, sex, color, ethnicity or national origin as factors for consideration in undergraduate admissions, the proportion of underrepresented students on the San Diego campus is not expected to improve significantly in the near future.[10]

Changing demographics and economic conditions are accompanied by shifts in students' academic interests and chosen fields of study (Table II.D). With nearly one third of all undergraduate enrollments, Science/Math is currently the largest academic disciplinary area at UCSD. In just ten years, undergraduate enrollments in science/math have increased by 37% (considerably higher than the average enrollment gain of 11%); much of the increase is due to growing interest in the biological sciences. In 1987, for example, only 17% of all undergraduates majored in the biological sciences; today over 25% of UCSD's undergraduate population major in biology.

Table II.D
Undergraduate Enrollment by Disciplinary Area

	1987	1993	1994	1995	1996	1997	1987-1997 Change
Arts	539 (4%)	512 (4%)	454 (3%)	435 (3%)	423 (3%)	474 (3%)	-12%
Engineering	3,178 (23%)	2,568 (18%)	2,519 (18%)	2,606 (18%)	2,651 (18%)	2,869 (19%)	-10%
Humanities	658 (5%)	976 (7%)	943 (7%)	941 (6%)	899 (6%)	885 (6%)	+34%
Science/Math	3,475 (26%)	4,126 (29%)	4,479 (31%)	4,909 (33%)	4,900 (34%)	4,771 (32%)	+37%
Social Science	3,960 (29%)	4,321 (30%)	4,037 (28%)	3,998 (27%)	3,983 (27%)	4,265 (28%)	+8%
Undeclared/Other	1,779 (13%)	1,857 (13%)	1,888 (13%)	1,957 (13%)	1,767 (12%)	1,876 (12%)	+5%
Total:	13,589	14,360	14,320	14,846	14,623	15,140	+11%

2. Academic Preparation: High School Grades and Scholastic Aptitude Test Scores

With more students seeking admission than the campus can accommodate, undergraduate admissions at UCSD has become increasing selective over the years. Increased selectivity is reflected in increases in traditional indicators of academic preparation - high school grades and standardized test scores. Campuses often use the high school GPA and scores achieved on the Scholastic Aptitude Test (SAT) as indicators of student "quality." At

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[10] UCSD has had a substantial and longstanding commitment to a diverse student body, as demonstrated by its outreach programs, the time and effort of its faculty, staff, and students, and the annual funds expended. However, "...much more can — and should — be done to guarantee that underrepresented students are afforded every opportunity to attend UCSD..." (Report of the Task Force on K-12 Outreach, p.4). A comprehensive, multi-pronged approach to increasing the numbers of underrepresented students who enroll, flourish, and graduate at UCSD has been proposed by the Task Force on K-12 Outreach, named by Chancellor Dynes in June of 1997 and charged to "develop a proposal to increase the participation of students from historically underrepresented groups and complement the array of outreach programs already at UCSD".

UCSD, high school grades and SAT scores are carefully monitored so the relationship of these pre-matriculation factors to institutional outcomes can be appropriately assessed. (For example, freshman year performance (GPA) and college completion probabilities can be reasonably predicted for first-time freshmen on the basis of high school grades and standardized test scores. The predicted GPA has been used by admission evaluators in the admission selection process and by the Academic Senate Committee on Admissions in policy deliberations).

As the data in Table II.E show, the quality of UCSD's entering freshmen has increased markedly in the past ten years; the high school GPA has risen from 3.66[11] to 3.90, the SAT composite score has risen from 1099 to 1233.[12] As would be expected, high school grades and test scores tend to vary based on such factors as a student's gender, ethnicity, or major field of study. Compared with their counterparts in the class of 1987, however, high school grades and test scores have improved substantially for all students regardless of subgroup affiliation. For example, the high school GPA for males in 1987 was 3.64; for the most recent freshman cohort it is 3.87. The comparable high school GPA figures for females is 3.68 and 3.92, respectively. (Gender, race/ethnic, disciplinary area, and regional differences in high school grades and SAT scores may be found in the annually published *Student Digest* or at SR&I's internet website: http//:ugr8.ucsd.edu).

Table II.E
High School GPA/SAT Scores: 1987- 1997

	1987	1993	1994	1995	1996	1997
High School GPA	3.66	3.83	3.80	3.86	3.90	3.90
High School GPA > 3.6	63%	78%	70%	775	84%	83%
SAT 1 Composite	1099	1131	1108	1136	1225*	1233*
SAT 1 Composite > 1000	68%	83%	76%	81%	92%	93%

*"Recentered" SAT scores; previous SAT scores are uncentered.

Additional evidence of the changing scene vis-a-vis student quality is provided by UCSD's relative position within the UC system in terms of the academic preparation of its entering freshman classes. Although comparison of SAT scores across campuses requires caution, similarity among UC campuses makes the intercampus comparison an appropriate context for viewing changes at UCSD. Until 1987, the average test scores of freshmen enrolled at UCSD fell at or below the systemwide average. Beginning with the 1987 freshman cohort, however, UCSD's average SAT score has been higher than the UC average (Table II.F). Since 1987, UCSD has consistently ranked in the top three, along with UC Berkeley and UCLA (Table II.G).

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[11]   The high school GPA can exceed 4.0 with credit given for honors courses.

[12]   It should be noted that in 1996, the College Board began reporting student performance on a revised set of SAT scales. The revision reestablished the average score on both the verbal and math portions of the SAT near the midpoint of the 200 to 800 scale making a comparison of students' verbal and math abilities more straightforward. Due to recentering, caution is required when making year to year comparisons. With several years of UCSD data reported, however, the upward trend is apparent.

Table II.F
SAT Composite Scores: An Intercampus Comparison

	1987	1993	1994	1995	1996	1997
Berkeley	1174	1219	1226	1218	1296	1308
Davis	1044	1070	1060	1070	1162	1162
Irvine	1033	1028	1011	1015	1121	1118
Los Angeles	1116	1136	1122	1136	1228	1245
Riverside	999	956	948	975	1046	1065
San Diego	1091	1130	1104	1136	1221	1233
Santa Barbara	1075	1005	997	1020	1116	1146
Santa Cruz	1086	1057	1034	1036	1134	1139
Systemwide	1087	1086	1079	1088	1180	NA

Table II.G
UC Campuses Ranked by Composite SAT Scores

Rank	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
1	UCB	UCB	UCB	UCB	UCB	UCB	UCB	UCB	UCB	UCB	UCB
2	UCLA	UCSD	UCLA	UCSD	UCLA	UCLA	UCLA	UCLA	UCSD	UCLA	UCLA
3	UCSD	UCLA	UCSD	UCLA	UCSD	UCSD	UCSD	UCSD	UCLA	UCSD	UCSD
4	UCSC	UCSC	UCSC	UCSB	UCSC	UCD	UCD	UCD	UCD	UCD	UCD
5	UCSB	UCSB	UCSB	UCD	UCSB	UCSB	UCI	UCSC	UCSC	UCSC	UCSB
6	UCD	UCD	UCD	UCSC	UCD	UCSC	UCSC	UCI	UCI	UCI	UCSC
7	UCI	UCI	UCI	UCI	UCI	UCI	UCSB	UCSB	UCSB	UCSB	UCI
8	UCR	UCR	UCR	UCR	UCR	UCR	UCR	UCR	UCR	UCR	UCR

3. Undergraduate Academic Performance

Although clearly not representative of all types of outcomes that are relevant to the educational objectives of the institution, grades are useful in assessing how well the academic challenge of the university is being met. Table II.H shows that, currently, over half (51%) of all undergraduates enrolled at UCSD have grade point averages at or above 3.0 — a substantially larger proportion than in 1987 (38%). The average GPA of undergraduates across all class levels has remained rather constant during the 1990s — and for the past several years has approximated 3.0. Improvements on academic performance measures can be attributed to a number of factors, not the least of which is the increase academic preparation of new students selected for admissions.

Table II.H
Academic Performance Measures

	1987	1993	1994	1995	1996	1997
UCSD GPA	2.85	2.98	2.97	2.97	2.98	2.98
GPA ≥ 3.0	38.1%	51.1%	50.2%	49.4%	49.9%	50.8%
GPA < 2.0 (Acad. Difficulty)	4.1%	2.8%	3.2%	3.1%	2.9%	2.6%

C. Undergraduate Retention and Graduation

Student persistence is an important factor in the campus' effort to meet its educational goals. Indeed, the extent to which students persist and graduate is commonly considered a significant indicator of institutional quality and impact. Precollege characteristics (namely, academic preparation scores), have been shown to be significant predictors of retention and graduation rates.[13] Institutional and/or environmental characteristics (for example, student support services, socio-cultural opportunities, faculty relations) and students' experiences within the institution are also associated with educational progress and graduation.

1.   First-time Freshmen

Persistence rates for students who enter UCSD from high school are currently among the highest within the University of California system[14]. Until the late 1980's however, persistence rates at UCSD were discouragingly low with more than ten percent of a given freshman class leaving the university during the freshman year and up to forty percent failing to graduate.

In the mid 1980's, these data were of concern to many segments of the university. The response, although somewhat ad hoc, is illustrative of how the campus incorporates data of this type into the decision-making process. On the academic side, then Vice Chancellor Ticho orchestrated an agreement between departments (particularly Engineering) and the Colleges. An informal moratorium resulted in reduction of requirements in high unit majors and those Colleges, particularly Revelle, that were perceived to have excessive general education requirements. At the same time, several new majors were introduced in response to student interest. The Provosts continued to monitor course availability. Core course offerings were increased and departments encouraged to offer "bottleneck courses" every quarter and during summer school.

In the student affairs arena, the campus began to address the needs of students for more services not available in the surrounding community. At the same time, the academic preparation of incoming students began to increase dramatically (Table II. E) reflecting the growing reputation of the campus, the decision to guarantee freshmen two years of on-campus housing, and certainly other factors as well. As a result of these collective efforts, retention rates began to improve noticeably in the late 1980's.

Beginning with the 1989 freshman cohort, one year retention rates began to exceed ninety percent. Substantial improvement in graduation rates also began to be realized during this period. As indicated below (Table II.I), the four year graduation rate for first-time freshmen increased from a low of 19% for the 1985 freshman cohort to a high of 45% for the 1992 freshman cohort. The five year rate has increased from 53% to 74%; the six year rate has increased from 63% to 77%.[15]

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[13] See *Admissions Criteria, Enrollment Management, and the Probability of College Completion: A Validity Study*, Student Research and Information, 1993, #664, and *"Weighing" Admissions Decisions at UCSD: How Valid is the Academic Index? A Case Study*, Student Research and Information, 1993, #1013.

[14] UCSD's one to six year persistence and graduation rates are currently surpassed only by UC Berkeley's (see *Retention and Graduation Rates at UC San Diego: An Annual Report*, 1997).

[15] For graduation rates by gender, race/ethnicity, family income, first generation college status, SAT score ranges, high school GPA ranges, and academic discipline, see *Retention and Graduation Rates at UC San Diego: An Annual Report, 1997.*

Table II.I
Graduation Rates for First-Time Freshmen

Entering transfer cohort of:	1985	1986	1987	1988	1989	1990	1991	1992
Four Year Graduation Rates	19%	22%	26%	30%	36%	42%	42%	45%
Five year graduation rates	53%	57%	59%	66%	70%	72%	74%	
Six year graduation rates	63%	66%	68%	74%	77%	77%		

2. Transfer Students

As with first-time freshmen, retention and graduation rates have increased substantially for transfer students. As shown below (Table II.J), two year graduation rates have increased from 12% (1986) to 26% (1994); three year graduation rates have increased from 44% to 59%; and four year rates from 63% to 77%. Although the overall graduation rate would suggest that transfer students are successful at UCSD, questions concerning the extent to which UCSD has met its responsibilities relative to community college transfers prompted the campus to focus on transfer student issues as part of its 1997-98 accreditation self-study. For additional information about the transfer experience at UCSD, the reader is directed to see section V of the *Self-Study*, Transfer Students.

Table II.J
Graduation Rates for Transfer Students:

Entering transfer cohort of:	1986	1987	1988	1989	1990	1991	1992	1993	1994
Two year graduation rates	12%	14%	14%	17%	17%	23%	28%	20%	26%
Three year graduation rates	44%	47%	51%	49%	53%	57%	66%	59%	
Four year graduation rates	63%	66%	66%	66%	68%	71%	77%		

By carefully monitoring the retention and graduation patterns of students at UCSD, the campus is in a better position to identify and implement solutions that impact the achievement, persistence, and graduation of all students. Improvements in the quality of entering classes, student support services and campus environment (e.g., Price Center (opened in 1989), Recreation and Intramural Athletic Complex (Recreation and Intramural Athletic Complex, RIMAC, opened in 1995), Cross-Cultural Center (opened in 1995), Women's Center (opened in 1996), expanded breadth of majors and guaranteed on-campus housing for new students are but a few of the factors identified as contributing to the improvement in graduation rates among first-time freshmen and transfer students.

D. Student Surveys: Attitudes, Perceptions, Experiences of Undergraduates at UCSD

UCSD considers student satisfaction with the educational experience and post-graduation outcomes to be additional measures of student quality and institutional effectiveness. Surveys of students at all stages of the university experience are periodically conducted and the results widely disseminated to UCSD executives, managers, academic department chairs, college provosts, and other stakeholders. A variety of instruments have been used to measure student attitudes and experiences during students' college years. Some have been developed at UCSD, others are those which are nationally normed and commercially available. Examples of the latter include the Freshman Survey and the College Student Experiences Questionnaire (CSEQ).

1. Freshman Survey

The Freshman Survey is conducted to provide the campus community with information about the changing background, goals, aspirations and values of its entering freshmen. The survey is part of a national study of higher education sponsored annually by the American Council of Education (ACE) and the Cooperative Institutional Research Program (CIRP) at the University of California at Los Angeles (UCLA). At UCSD, the Freshman Survey has been administered four times; in 1986, in 1988, in 1991, and most recently in 1996. The results obtained from the 1986 administration of the Freshman Survey are used as a base against which subsequent results are evaluated. Since first administered in 1986, increasing numbers of freshmen (74%) have cited "good academic reputation" as the most important reason for choosing UCSD. In addition,

■ UCSD is the first choice among the UC campuses for nearly two thirds of all first-time freshmen.

■ An important reason for choosing UCSD, according to 55% of the 1996 freshmen class, is the fact that UCSD "grads get good jobs" - a sharp increase from 1991 when only 40% cited "...good jobs" as an important reason.

■ Similarly, getting admitted to a "top" graduate schools is an important reason to choose UCSD for 46% of the 1996 class compared to only 39% of the 1991 class.

■ Survey results show that economic factors play an increasing role in students' decision to attend UCSD In 1996, nearly one-fourth of all first time freshmen cited "low tuition" as being an important factor.

■ The percentage of students relying on scholarships, grants, and loans for financial support has increased greatly since 1991. With respect to loans, 39% of the 1996 cited federally guaranteed student loans as the means by which they expected to finance their college education compared to 6% in 1991 and 10% in 1988.[16]

■ A record number of freshmen reported having performed volunteer work frequently or occasionally prior to enrolling at UCSD (89% compared to 77% in 1991). Similarly, the percent of UCSD freshmen who reported tutoring other students "frequently" or "occasionally" rose to 81% in 1996 (compared to 76% in 1991 and 70% in 1986.)

Information gleaned from the Freshman Survey, together with background information gathered at admissions, has been influential in effecting changes in policy and procedures related to admissions effectiveness, recruitment, and retention. The campus is better prepared, for example, to consider recruitment and retention strategies with the benefit of information on such items as college choice, choice of major, student aspirations, and precollege activities (e.g., volunteerism).

2. The College Student Experiences Questionnaire

As part of UCSD's long standing commitment toward understanding and improving undergraduate programs and services, assessment and evaluation studies are conducted periodically with the aid of the College Student Experiences Questionnaire (CSEQ). The CSEQ is a standardized survey instrument widely used among institutions of higher education for assessing the quality of student experiences and for examining sources of student progress

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[16] The percentage of students on financial aid has risen to approximately 50% in 1997.

toward the attainment of important goals of a college education. At UCSD, the CSEQ was first administered to undergraduates in 1988, again in 1991, and most recently in the Spring of 1994. Results from the 1994 administration of the CSEQ have been compared with the results of the two previous administrations so as to assess: a) changes in undergraduates use of campus resources and facilities; b) "gains" or progress among undergraduates in the areas of educational, personal, and social development ; c) perceptions of campus climate; d) satisfaction with the university.

With few exceptions, results obtained from the 1994 administration of the CSEQ supported findings obtained from the earlier two administrations of the survey. That is, as a result of their experiences at UCSD, undergraduates, in general, reported making significant gains in their ability to learn on their own and to think analytically. Large percentages of undergraduates also reported substantial gains in "understanding of self" (71%) and "others" (67%) and for "acquiring the background and skills required for further education" (62%). When examined by the background characteristics of students, the survey results showed that, with few exceptions, there were no meaningful subgroup differences. To cite one exception, the analysis revealed a substantial ethnic difference in the degree to which students participate in extracurricular activities; that is, relative to other student groups, a smaller percentage of African Americans reported participating in athletic and recreational activities. There were no meaningful ethnic differences in the degree to which students interacted with faculty, however, nor were there ethnic differences on perceptions of the campus environment. In the area of academic advising, however, there was a substantial decline in student satisfaction ratings. As a result of the decline, the campus undertook an additional study aimed at identifying the academic advising needs and priorities of undergraduates (Spring, 1995).

The Academic Advising Needs Assessment Survey was developed locally by the Task Force on Academic Advising[17] and supported by the Council of Provosts with consulting assistance from SR&I. With growing enrollments and declining resources, the Task Force was challenged to identify the advising functions that students considered to be the most important to their academic progress ("clarification of major degree requirements"), the advising services most used (College Academic Advising), the information sources students considered to be most helpful (Schedule of Classes, General Catalog) and the strengths and weaknesses of the decentralized academic advising function at UCSD. Improved services, coordination between academic advising units (College, Major Department), and service-delivery efficiencies remain primary goals of the Task Force effort.

3. Quality of Student Life at UCSD: A Student Survey

In order to implement appropriate and effective strategies for meeting the needs of students, it is important to identify those factors specific to the university and its population that enhance or are counterproductive to academic success. Academic quality, faculty relations, and the socio-cultural environment are identified as factors commonly associated with academic performance and retention. In an effort to assess the academic and socio-cultural environment at UCSD, student opinions regarding the strengths and weaknesses of the campus were elicited in a campuswide "campus climate" survey conducted in the Spring of 1997. Students were asked to evaluate various aspects of the UCSD environment and to provide their counsel about a variety of campus programs and services. The survey was a collaborative effort involving Associated Students (AS), Graduate Students Association (GSA), and Student Affairs. In order to provide the opportunity for all student voices to be heard, the survey instrument was distributed at strategic locations on campus such as Library Walk, resident halls, Women's Center, and the Cross-cultural Center. In addition, a randomly selected cross-section of all enrolled students was chosen to receive

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[17]   Chaired by Provost Ann Craig (Eleanor Roosevelt College), the Task Force on Academic Advising is comprised of faculty, staff, and college academic advisors representing the college and major department advising areas at UCSD.

the survey by mail. A total of 2,395 undergraduate responses were returned via the two methods of data collection. Analysis performed on the survey returns revealed no apparent bias based on the two methods of data collection.

The results of this assessment effort revealed that undergraduates on the San Diego campus rate the academic environment very highly; four out of five students report being satisfied or very satisfied with the quality of undergraduate instruction. More impressively, nearly 90% of the students surveyed indicated that their expectations regarding their academic life had been met or exceeded. Faculty instruction in major field of study received very high marks as did classroom facilities (72%), computer facilities (70%) and library facilities (85%). There was almost universal approval of RIMAC; on the other hand, very few students were satisfied with the availability of parking.

Although the academic environment at UCSD received high marks, less that half of the survey respondents reported being satisfied with the social environment. Further, there were substantial ethnic differences in students' perceptions of the social, ethnic, political and cultural environment on campus. Underrepresented students, in general, reported high levels of dissatisfaction with various aspects of the campus environment; for example, compared to only one in ten students in the general population, two of every five African American students indicated that their academic experiences at UCSD had been negatively affected by race/ethnicity. Further, when compared to their majority counterparts, underrepresented students were more likely to report feelings of isolation, alienation and social distance as evidenced by responses to the question concerning one's "sense of belonging at UCSD".

In response to the "social discontent" issue raised by the quality of student life survey, the oversight committee, named by Vice Chancellor Watson, has submitted a set of recommended actions aimed at enhancing the collegial environment at UCSD. Recommendations include, but are not limited to: implementing a "buddy system" for new students; improved marketing and publicity for campus events/programs/activities; increased campuswide large-scale events; soliciting input from underrepresented students regarding music and programming preference;, accurately portraying UCSD to applicants and admits; and increased political, religious and cultural programming. The feasibility of these recommended actions is currently under committee review.

4.   Student Evaluations of Instructional Quality: Course and Professor Evaluations

At UCSD, an important institutional goal is to assure excellence in undergraduate instruction. An important part of achieving this goal is students' assessment of what works to promote learning and what hinders it. Course evaluations is one means of assessing students' satisfaction with course offerings (would you recommend this course to others?) and instructional quality (e.g., would you recommend this professor to others?).

At UCSD, the quality of instruction has been monitored by students since 1973, the year in which a unique system called the Course and Professor Evaluation (CAPE) was launched. The CAPE operation is distinctive in that it is entirely managed and operated by students. While student-run, CAPE serves three populations on campus; students (who use the published information as a supplement to the course catalog in selecting courses); faculty (by providing them with diagnostic feedback regarding their teaching skills and for use in tenure/promotion and merit salary decisions); and administrators (by providing a measure of teaching effectiveness for use in tenure/promotion and merit salary decisions).

Using CAPE data collected over a four year period, a study was conducted for the purpose of assessing the quality of undergraduate instruction as judged by students. Using a free-market analogy, it was argued that as consumers of the instructional product, students are in the best position to evaluate the product being offered. The results of this study showed that the vast majority of undergraduates (88%) favorably rate the teaching ability of

their instructors and the quality of the course offerings (77%) at UCSD. Further, 80% of all undergraduates indicated that they would recommend the faculty to fellow "consumers." The study demonstrated that students' evaluations of educational quality vary with institutional characteristics such as course type, class size, and professor rank. For example, evaluations were generally lower in engineering and science/math courses than in humanities/fine arts or social science courses. As expected, higher instructional quality ratings were associated with small classes (n < 50 students) and, unexpectedly, with very large classes (n >300). The unexpectedly high rating for very large classes was attributed to: a) the selection of particularly effective instructors with demonstrable success in such settings; b) students systematically selecting classes taught by particularly effective instructors, thereby increasing class size.

5. Post-Baccalaureate Outcomes

As part of its student outcomes assessment function, SR&I surveys former undergraduates one, three, and five years after graduation. The purpose of the survey effort is to gather information on the short- and long-range educational and employment activities of former undergraduates, the graduates' perceptions about the relationship of their education preparation to their post-graduation activities, and the characteristics of the graduates and their post-graduation activities. A core set of questions, developed in coordination with other UC campuses, is included in the survey in order to compare and validate the findings. Survey results are disseminated in several ways: a general report is prepared for distribution to all academic departments, student affairs units, college provosts and other administrative units, a detailed report which includes a list of all graduates employers is prepared for use by the Career Service Center and, on request, a tailored report is prepared for each academic department that details the activities of its own graduates. In addition, survey results are posted to SR&I's internet website, making the information widely available to high school counselors, parents, and prospective students.

The survey instrument *Beyond the Baccalaureate: A Survey of UCSD Bachelor Degree Recipients* was first administered in 1992 to a stratified random sample of former undergraduates from the classes of 1986-87 (five years after graduation), 1988-89 (three years after graduation) and 1990- 91 (one year after graduation). (Most recently the survey was administered to the 1992, 1994, and 1996 graduating classes - results of this study are pending.) Findings from the first administration of the post-baccalaureate survey showed that UCSD graduates enjoy a high measure of success in obtaining employment or entry into graduate or professional degree programs. For example, within five years of graduation, over fifty percent of all former undergraduates reported that they had completed, or were registered in, an advanced degree program. Course work, internships and undergraduate research experiences were cited by former undergraduates as the most helpful factors contributing to the pursuit of an advanced degree; medicine, law and the sciences were reported to be the most popular fields of post-baccalaureate study. Of those who reported entering the work force after graduation, over three-fourths indicated that their undergraduate education at UCSD was "excellent" or "good" preparation for their careers.

Findings from the post-baccalaureate survey are used in outreach and recruitment programs and for career advising purposes by both the academic and student services areas. The survey is considered to be a reliable measure of student outcomes and performance and has been useful for the campus and its public in understanding the benefits and realities of the college experience.

E. Summary, Conclusion, and Selected Student Research Publications

1. Summary and Conclusion

Selected samples of student-centered research and assessment activities have been presented in this section of the *Self-Study* to illustrate the breadth and depth of UCSD's institutional research program. Although assessment is

by no means new to the campus community, clearly much progress has been made in this critical area of institutional functioning since the last accreditation review. Regularly disseminated data prepared by Student Research & Information on undergraduate admissions, enrollment, diversity, academic quality, and persistence, as well as ongoing research related to student attitudes and experiences are used, in varying degrees, to support institutional planning, enrollment management, policy formulation, and administrative decision-making. In Student Affairs, information about outcomes has been used to assist student service administrators and program directors to define and articulate goals and objectives. Similarly, information about outcomes has suggested critical areas needing resolution in order to meet service objectives. (Comparisons of predicted and actual freshman year performance outcomes and college completion rates have been especially useful in program review and evaluation processes). Needs assessment and program evaluation studies have led to improvements in areas which affect students directly such as registration, health services, academic advising, student financial services. Perhaps the single best illustration of the usefulness of outcomes assessment, however, is in the area of retention and graduation studies where institutional and/or student-centered factors associated with successful degree completion have been identified and where qualifiable measures are systematically used to assess progress toward campuswide retention objectives.

As suggested above, UCSD has made much progress in the area of assessment — especially with respect to assessment's role in institutional accountability. With respect to assessment's educational "improvement" role, however, there continue to exist substantial institutional resource and workload barriers to full implementation. With the development of a longitudinal student information system, and establishment of a historical data base within Student Affairs, UCSD's student tracking and data reporting problems (of the not too distant past) have been resolved. And within Student Affairs, institutional research findings have been more fully integrated into the adminstrative decision-making, and program review processes. Nonetheless, there remains a substantial gap between the findings of instititonal research and the extent to which these findings are integrated into the campus's decision-making processes.

2. Selected Student Research Publications

Academic Advising Needs and Satisfaction Inventory: A Student Survey, Student Research and Information, 1996, #1.

Admissions Criteria, Enrollment Management, and the Probability of College Completion: A Validity Study,. Student Research and Information, 1993, #1013.

Degrees Conferred at the University of California, San Diego: Profile of Undergraduate Degree Recipients, Student Research and Information Annual Report, Winter 1997.

Freshman Survey, Student Research and Information, 1996, #284.

Making a Difference: The Methods of Inquiry Course at Third College, Student Research and Information, 1992, #544.

Quality of Campus Life: A Student Opinion Survey, Student Research and Information Index, 1997, #1046.

Student Affairs Supported Programs and Services: Needs Assessment and Satisfaction Inventory, Student Research and Information, 1996, #585.

Student Digest: Enrollment and Academic Performance Statistics, Student Research and Information Annual Report, Fall, 1997.

Student Evaluations of Instructional Quality: How Does UCSD Rate? Student Research and Information, 1990, #298.

Student Profile: Characteristics of Students Enrolled at the University of California, San Diego, Student Research and Information Annual Report, Fall 1997.

Study on MCAT Performance Factors, Student Research and Information, 1991, #525.

Survey of Undergraduates: Incidence and Prevalence of Unwelcome Sexual Behaviors and Sexual Harassment at UCSD, Student Research and Information, 1993, #664.

The Undergraduate Experience at UCSD: A Student Survey (CSEQ), Student Research and Information, 1994, #251.

Undergraduate Retention and Graduation Rates at UC San Diego, Student Research and Information Annual Report, Spring 1997.

"Weighing" Admissions Decisions at UCSD: How Valid is the Academic Index? Student Research and Information, 1993, # 1013.

III. UNDERGRADUATE COLLEGE SELF-STUDIES

A. The Colleges at UCSD

1. Background

From its inception the college system has been a unique feature of undergraduate education at UCSD. Designed to give a "small college experience" to undergraduates at a large public research university, the system has survived largely intact for over a third of a century, a period that has seen extensive stress and change in higher education, particularly so in California. The college system has been reviewed on a regular basis and was one of the focal points for the most recent (1986) accreditation. Changes in high level campus administrators (particularly if they come from outside), the initiation of discussion about a new college, and modification in campus administrative structure are incentives for UCSD to discuss the nature of the college system and the missions of its individual colleges.

The colleges differ primarily in their general education requirements, which tend to reflect the educational issues at their time of origin. Revelle College, the oldest, has a structured core curriculum stressing Western Civilization, foreign language, and required calculus and science for all majors. The second college, John Muir, not surprisingly went the opposite direction stressing student choice within a series of flexible guidelines. Thurgood Marshall College, formed during the late sixties has a core course sequence, Dimensions of Culture, and encourages student participation in volunteer activities both on campus and within the community. Earl Warren College has a less structured curriculum that still insures breadth in two different areas distinct from the major, and has become particularly popular with engineering and transfer students. The newest college, Eleanor Roosevelt, returned to a structured curriculum featuring a nationally recognized internationally focused curriculum that features a two year core interdisciplinary sequence, "The Making of the Modern World."

2. Organization and Priorities

Each of the colleges is designed to enroll between 3,000 and 3,500 students and is led by a Provost drawn from the faculty (Figures III.A & III.B provide a prototypical internal structure and a summary of the campuswide obligations of the college Provosts, Directors of Academic Advising, and Deans of Student Affairs). Applicants to UCSD must rank their choice of college and the campus is usually able to accommodate their first choice. UCSD allows transfer between colleges after one year for freshman admits and one quarter for transfer students, particularly so if improved time-to-degree can be demonstrated, but less than 1% choose to transfer. UCSD's popularity at the undergraduate level, as measured both by quantity and quality of applicants, has been attributed by many to the college system, although other factors, particularly academic reputation are clearly involved.

The colleges work collectively through the Council of Provosts (COP), the 1997-98 chair of which is Ann Craig, Provost of Eleanor Roosevelt College. As COP chair she is a regular participant in the Chancellor's weekly cabinet meeting. For that body, COP recently developed a statement of common priorities, some of which the colleges address collectively while approaching others independently in ways that will become apparent in the individual college sections that follow this introduction. Some of these common priorities are to:

Figure III.A

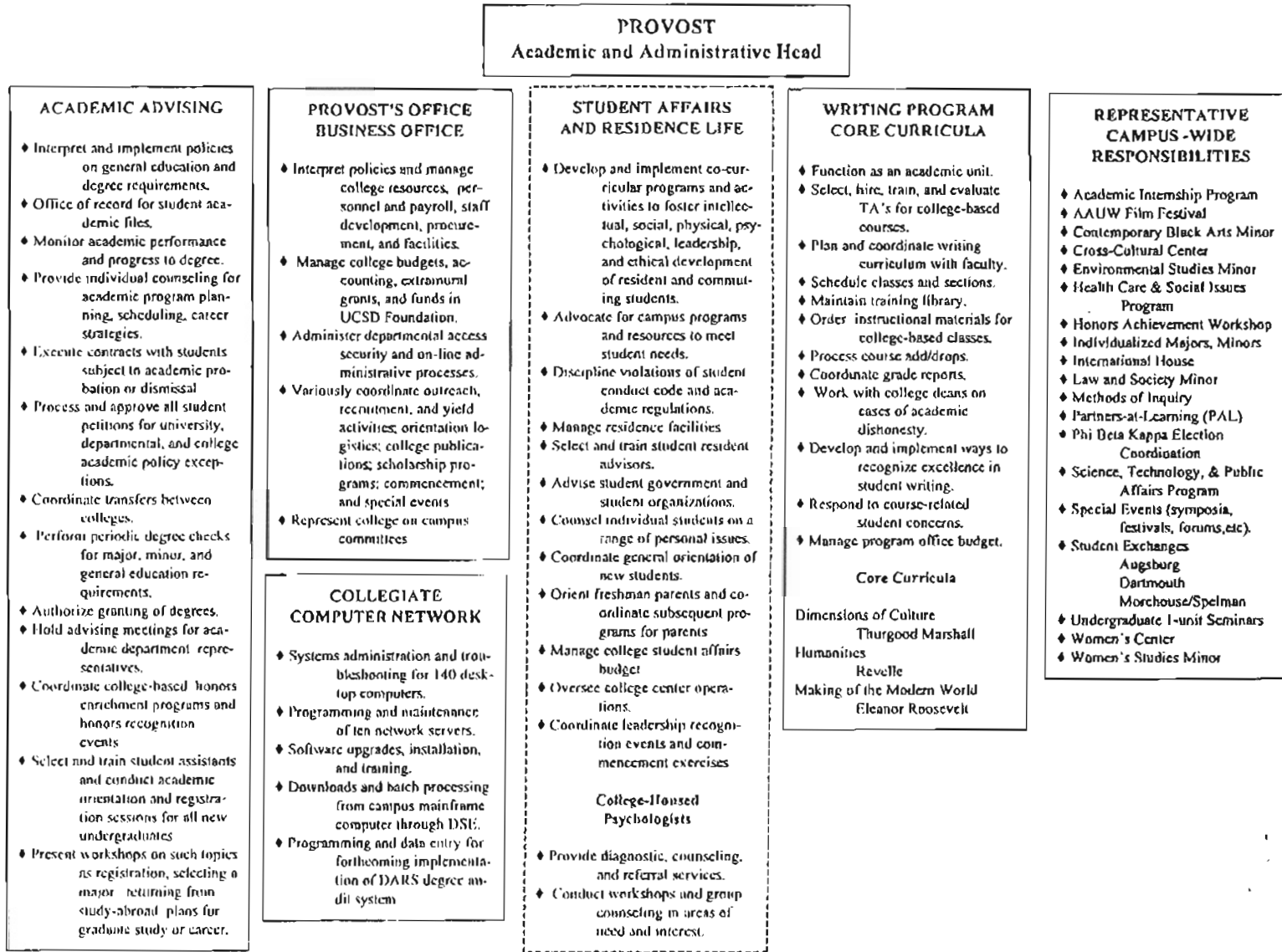## PROTOTYPICAL STRUCTURE OF UCSD UNDERGRADUATE COLLEGES

PROVOST
Academic and Administrative Head

ACADEMIC ADVISING

- Interpret and implement policies on general education and degree requirements.
- Office of record for student academic files.
- Monitor academic performance and progress to degree.
- Provide individual counseling for academic program planning, scheduling, career strategies.
- Execute contracts with students subject to academic probation or dismissal
- Process and approve all student petitions for university, departmental, and college academic policy exceptions.
- Coordinate transfers between colleges.
- Perform periodic degree checks for major, minor, and general education requirements.
- Authorize granting of degrees.
- Hold advising meetings for academic department representatives.
- Coordinate college-based honors enrichment programs and honors recognition events
- Select and train student assistants and conduct academic orientation and registration sessions for all new undergraduates
- Present workshops on such topics as registration, selecting a major, returning from study-abroad, plans for graduate study or career.

PROVOST'S OFFICE BUSINESS OFFICE

- Interpret policies and manage college resources, personnel and payroll, staff development, procurement, and facilities.
- Manage college budgets, accounting, extramural grants, and funds in UCSD Foundation.
- Administer departmental access security and on-line administrative processes.
- Variously coordinate outreach, recruitment, and yield activities; orientation logistics; college publications; scholarship programs; commencement; and special events
- Represent college on campus committees

COLLEGIATE COMPUTER NETWORK

- Systems administration and troubleshooting for 140 desktop computers.
- Programming and maintenance of ten network servers.
- Software upgrades, installation, and training.
- Downloads and batch processing from campus mainframe computer through DSE.
- Programming and data entry for forthcoming implementation of DARS degree audit system

STUDENT AFFAIRS AND RESIDENCE LIFE

- Develop and implement co-curricular programs and activities to foster intellectual, social, physical, psychological, leadership, and ethical development of resident and commuting students.
- Advocate for campus programs and resources to meet student needs.
- Discipline violations of student conduct code and academic regulations.
- Manage residence facilities.
- Select and train student resident advisors.
- Advise student government and student organizations.
- Counsel individual students on a range of personal issues.
- Coordinate general orientation of new students.
- Orient freshman parents and coordinate subsequent programs for parents
- Manage college student affairs budget
- Oversee college center operations.
- Coordinate leadership recognition events and commencement exercises

College-Housed Psychologists

- Provide diagnostic, counseling, and referral services.
- Conduct workshops and group counseling in areas of need and interest.

WRITING PROGRAM CORE CURRICULA

- Function as an academic unit.
- Select, hire, train, and evaluate TA's for college-based courses.
- Plan and coordinate writing curriculum with faculty.
- Schedule classes and sections.
- Maintain training library.
- Order instructional materials for college-based classes.
- Process course add/drops.
- Coordinate grade reports.
- Work with college deans on cases of academic dishonesty.
- Develop and implement ways to recognize excellence in student writing.
- Respond to course-related student concerns.
- Manage program office budget.

Core Curricula

Dimensions of Culture
   Thurgood Marshall
Humanities
   Revelle
Making of the Modern World
   Eleanor Roosevelt

REPRESENTATIVE CAMPUS-WIDE RESPONSIBILITIES

- Academic Internship Program
- AAUW Film Festival
- Contemporary Black Arts Minor
- Cross-Cultural Center
- Environmental Studies Minor
- Health Care & Social Issues Program
- Honors Achievement Workshop
- Individualized Majors, Minors
- International House
- Law and Society Minor
- Methods of Inquiry
- Partners-at-Learning (PAL)
- Phi Beta Kappa Election Coordination
- Science, Technology, & Public Affairs Program
- Special Events (symposia, festivals, forums, etc).
- Student Exchanges
  Augsburg
  Dartmouth
  Morehouse/Spelman
- Undergraduate 1-unit Seminars
- Women's Center
- Women's Studies Minor

Figure III.B

UCSD COUNCIL OF PROVOSTS

- ✦ Meets weekly; chair rotates annually.
- ✦ Reviews and makes recommendations with regard to all proposed new faculty appointments.
- ✦ Assigns college affiliations to new faculty appointees.
- ✦ Reviews all files and submits comments on faculty merits and promotions to tenure or security of employment.
- ✦ Distributes among provosts all temporary faculty appointment files for review and comment.
- ✦ Allocates temporary faculty FTE and housekeeping in support of innovative and interdisciplinary courses.
- ✦ Reviews and recommends SVCAA action on proposals for Regents Lectureships and Professorships
- → Serves as PRC TA-FTE subcommittee chaired by Dean of OGSR.
- ✦ Allocates undergraduate enrollment targets among the colleges.
- ✦ Allocates funding to promote interactions between faculty and students.
- ✦ Meets regularly with cognizant vice chancellors whose areas relate to matters affecting undergraduates.
- ✦ Provosts serve on the following campus committees: Chancellor's Council; SVCAA Cabinet; Enrollment Projection; Admissions; Instructional Computing; Instructional Improvement; Program Review and subcommittees for equipment, faculty allocation, and space; Registration Fee; Residential and Food Services Advisory; TA Advisory; Divisional Deans (informally); Educational Policy (informally); Accreditation; Diversity; Electronic Information Policy; Finish-in-Four; Instructional Technology Task Force; North Campus Building Advisory; UCSD Foundation Board; Undergraduate Scholarships; Virtual University; Cross-Cultural Center; Women's Center; various ad hoc university and campus committees.
- ✦ Provosts regularly participate in campus and college recruitment and yield activities.
- ✦ Individual provosts are a major source of letters of recommendation for students applying for study abroad, graduate or professional school, or employment.

DIRECTORS OF ACADEMIC ADVISING

- ✦ Meet weekly; chair rotates quarterly.
- ✦ Coordinate academic support policies and procedures across colleges to ensure consistency and fairness.
- ✦ Coordinate and integrate policies and procedures with central administrative, academic, and service units whose responsibilities impact undergraduate education: Academic Senate/CEP; academic departments and programs; Registrar; Admissions and Outreach; Student Financial Services; Bursar; Academic Computing; Subject A; ESL; Office for Students with Disabilities; Summer Session; Programs Abroad; Facilities Services; Campus Publications.
- ✦ Promote and initiate improvements in procedures and systems relating to academic administration and services.
- ✦ Directors sit on or coordinate the functions of the following groups: Campus-wide Orientation; Early Placement Testing; Financial Services Advisory Committee; Integrated Student Information System enhancements; Collegiate Computer Network; Admissions Coordination and Publications; Summer Session Advisory Committee; Task Force on Academic Advising; Registration Coordination; Admission Cancellations and Holds; Transfer course articulation and credit; Office of Academic Support and Information Services; Workgroup on K-12 Outreach; Office for Students with Disabilities Funding; SAA Student Retention Task Force.
- ✦ Individual directors are a major source of letters of recommendation for students applying for study abroad, graduate or professional school, or employment.

COUNCIL OF COLLEGE DEANS

- ✦ Meets weekly; chair rotates annually.
- ✦ Discusses and makes recommendations for programming to address students' development.
- ✦ Addresses issues of diversity education within residential life.
- ✦ Reviews Housing and Dining Services policies and procedures.
- ✦ Facilitates professional staff development for college student affairs professionals.
- ✦ Meets quarterly with Council of Assistant Deans and Council of Student Activities Coordinators.
- ✦ Responds to assignments, issues, and concerns from the Vice Chancellor, Student Affairs.
- ✦ College deans sit on (and in some instances chair) the following committees: VCSA Cabinet; Admission and Outreach Publications; Alcohol and Substance Abuse; Associated Students/UCSD TV; Academic Judicial Board Liaison/Advisor; Non-Academic Judicial Board Liaison/Advisor; Campus Security Advisory Board; College 001 Course Advisory; College Student Affairs Roundtable; College TV; Commuter Advisory Board; Deans on Call; Diversity Education Initiatives; Emergency Response Team Back-up; Housing and Dining Services; International House Advisory; Student Ad Hoc Funding Review; Student Financial Services Advisory; Student Financial Services Appeals; Student Health Advisory; SAA Student Retention Task Force.
- ✦ Individual deans are a major source of letters of recommendation for students applying for study abroad, graduate or professional school, or employment.

- improve the quality of the undergraduate educational experience despite growth in enrollment;

- increase opportunities for faculty-student interaction through individualized research experiences, particularly opportunities that enhance student applicants for graduate and professional schools and for employment;

- continue to recognize and reward faculty for teaching and service initiatives involving students, including recognition of multiple instructional venues (individualized and group advising, research mentorships, work with student organizations, internships, and community service programs);

- continue to develop information programs that increase the profile of UCSD around the state, with increasing emphasis on excellent academic programs outside the sciences and engineering;

- lower the student:counselor ratio in academic advising in the colleges to facilitate provision of services to undecided majors, first generation college students, students for whom English is a second language, students in academic difficulty, and honors students;

- continue to monitor course availability by department to assure that we do not develop impacted majors that increase time to degree through limited course offerings;

- expand residential facilities on campus as enrollments increase to move toward the Long Range Development Plan goal of housing 50% of our students;

- plan, fund, and construct facilities for Eleanor Roosevelt College by 2002 on the northern part of the campus; and

- participate in the planning for a sixth college.

One of the key threads that ties these priorities together is the importance the campus ascribes to facilitating the direct involvement of students in the scholarly activities of the faculty. The colleges do this in a variety of ways. For example, the COP introduced one-unit undergraduate seminars at UCSD in the 1980s, long before they became popular nationally. Earl Warren college administers the seminars which are promoted by all. All five colleges administer freshmen honors programs to introduce exceptionally talented students to research at the earliest possible time. Warren College administers a very effective Academic Internship Program for students from all colleges. College advisors work closely with their department counterparts to insure smooth transition to the upper division.

A second thread is the direct involvement of the colleges in faculty appointments, merit increase recommendations, and promotions. Research is still the primary focus of faculty reviews, as it should be, but the campus also requires demonstrated excellence in teaching in all cases. The Provosts, in cooperation with the divisional Deans, recruit and support teachers who contribute to the interdisciplinary core courses of the colleges. The colleges organize numerous student/faculty lunches, dinners, and field trips and individually recognize outstanding teachers at graduation, as do the Academic Senate, Chancellor's Associates, and the Alumni Association.

A third thread running through the common priorities is the role of the colleges in monitoring and shaping campus growth. Through outreach efforts all the colleges are involved in trying to attract students with a broad range of academic interests to maintain and enhance the campus's excellence in all areas. Eleanor Roosevelt College has been particularly successful in attracting and serving students interested in the humanities and social

sciences, though it remains the smallest of the colleges. The campus's relative unattractiveness to transfer students (see section **V. Transfer Students**) is also a common concern, particularly as planning begins for Sixth College, a process that will require an all-campus effort.

Most of these priorities can be met only with an increase in resources, either directly to the colleges or in the form of increased private donations. The new Senior Vice Chancellor — Academic Affairs has already indicated her commitment to the former by increasing funding to the colleges as part of a three-year plan to restore earlier cuts and provide a stable allocation formula. She has also provided some temporary additional staff funding. The colleges hope their self-studies will help make an effective argument for permanent funding increases as the campus engages in a new academic planning process (section I.E.3). Furthermore, the Vice Chancellor — Student Affairs is leading the search for improved funding of merit-based scholarships and support for increased undergraduate research. The campus is also on the verge of instituting a new and far more efficient computer degree check system that should free advisers to spend more time with students.

3. Common Challenges

Maintaining current levels of student life services, advising, and supervision of academic programs present all UCSD's colleges with significant challenges. The continued growth of the campus's newest college, Eleanor Roosevelt, the opening of a 10th UC campus near Merced around 2005, and the press of increasing enrollments, will magnify the challenges of providing students with "small college" environments.

The campus organization of college provosts, divisional deans, academic senate, and vice chancellors is evolving as are the problems stemming from such an organizational structure. The colleges of UCSD add a dimension to campus governance that, at times, is at odds with the usual vertical, hierarchical structures typical of more traditionally configured research universities. For example, various staff who report directly to the college provosts must derive funding for their programs from as many as three different vice chancellors. The autonomy of vice chancellors from provosts can produce a kind of "organizational turbulence" that often stimulates creativity and cooperation. Thus, while many faculty and staff clamor for more traditional and clearer lines of responsibility and authority, the UCSD experiment of cultivating small liberal arts colleges within the context of a modern research university has nonetheless produced remarkable results within a very short period.

Both the issues of growth and administration will have an uncertain impact on the quality of faculty and the student body. By every appropriate measure, the UCSD faculty ranks among the best in the country. The student body attending all of the colleges represent the upper tier of the top 12% of California high school graduates. The preservation of the quality of the faculty and student body in competition with another new UC campus and in the face of escalating enrollments will be the challenge of the coming century.

The colleges, the individual self-studies of which constitute the balance of this section, are committed to working collectively to help the campus meet these challenges. At the same time, as described in its respective self-study, each college seeks to address these challenges in ways that are consonant with its individual character.

B. Revelle College (Thomas Bond, Provost)

1. Introduction/Philosophy

Revelle College, the first created on the UCSD campus, was named in honor of Dr. Roger Revelle, the one person most responsible for the formation of a general campus of the UC system in San Diego, and for many years Director of Scripps Institution of Oceanography.

Revelle College was established in 1958 though its first students were not to enroll until 1964. UCSD had been founded on the premise that "great scholarship and great teaching are linked processes." Its initial faculty, largely physical scientists, designed an undergraduate curriculum that attempted, in Revelle's own words to "desegregate the sciences and humanities." The original educational philosophy has remained largely intact, though fine points of specific requirements have been modified and gender sensitive language has been incorporated.

a. Educational Philosophy

The faculty of UCSD has been given a rare opportunity to shape an undergraduate curriculum that will, insofar as any educational program can, prepare its students for the modern world. From the outset of planning the curriculum, the faculty has asked: What sort of knowledge must students have if they are to be liberally educated? In what area? To what depth? How specialized must that education be in the undergraduate years? The educational philosophy of Revelle College has been developed in response to such fundamental questions. Its undergraduate program is based on the assumption that students who are granted the bachelor's degree will have attained:

- An acceptable level of general education in mathematics, foreign language, the physical, biological, and social sciences, the fine arts and the humanities.

- Preprofessional competence in one academic discipline.

- An understanding of an academic area outside their major field.

To this end, a lower-division curriculum has been established which enables students to acquire an understanding of the fundamental problems, methods, and powers of the humanities and the arts, the social and behavioral sciences, mathematics, and the natural sciences.

The lower division curriculum assumes that undergraduates should not concentrate heavily in a special field until they have had a chance to learn something about the various fields that are open to them. Their general education must, then, be thorough enough for them to see the possibilities in those fields. Early in their careers, they should know three languages: their own, a foreign language, and the universal language of mathematics.

During the students' junior and senior years, their main efforts will be devoted to intensive work in their major fields at a level of competence that will enable them to continue their study at the graduate level. In addition to the major, students will study an area of learning distinctly different in content from the major.

During the student's upper division years his main effort will be devoted to intensive work in his major field at a level of competence that is sufficient for continuing study in the graduate school.

The general education requirements that attempt to define these lofty objectives include four unusual features, the last an upper division graduation requirement:

■ A two year interdisciplinary humanities sequence, heavily emphasizing Western Civilization, to be taught by faculty from the departments of literature, history, and philosophy.

■ A foreign language oral and reading *proficiency* level.

■ A three quarter calculus and five quarter natural science requirement for all students.

■ An area of study (three courses) in a field unrelated to the major.

A more typical requirement for a year of social sciences and a single course from the fine arts complete the requirements. During the past thirty-three years, these requirements, listed in detail in the next section, have largely survived in spite of increasing national emphasis on vocationalism, cultural wars, and a rejection by students of "fixed" requirements. An original three part language requirement was meant to be cleared by proficiency exam only and has been altered to the requirement that either proficiency be demonstrated or the fourth quarter of the language satisfied. About 15%, mainly native speakers, pass by exam. The humanities sequence, originally six quarters, was reduced to five with the imposition of UC's Subject A requirement (a remedial writing course for those who do not meet a specified writing level, 660 on the SAT II in English or pass a universitywide exam). The first two quarters of the sequence were increased to six units each at the same time. One of the three courses used to satisfy the social science requirement must now also satisfy an American Cultures requirement.

b. Current Requirements

The current general education graduation requirements are:

■ Satisfaction of the general University of California requirements in Subject A and American History and Institutions.

■ A five-course sequence in an interdisciplinary humanities program including two six-unit courses with intensive instruction in university-level writing. Written work is also required in the remaining (four-unit) three-quarter courses.

■ One course in the fine arts.

■ Three lower-division courses in the social sciences, chosen from an approved list, to include two courses in the same social science and at least one course in American cultures. To fulfill the requirement in American Cultures, a course must be taught by a social scientist or historian and must take as its focus the study of *American ethnic groups and their interactions*. A course may focus principally on a single group in American society, but every course must explicitly meet all three of the following criteria:

- *it should be comparative*, incorporating some material descriptive of and comparative with more than one ethnic group, not necessarily all in the United States;

- *it should be both historical and contemporary*, including at least some information on the process(es) of change in the focal group(s) over time and some information on the present situation of the focal group(s);

- *it should be theoretical* so that the student gains an intellectual framework by which to analyze issues of ethnicity beyond the specific example(s) of the class.

- Three courses in mathematics (three quarters of calculus).

- Five courses in the physical and biological sciences to include four quarters of physics and chemistry and one quarter of biology. The chemistry and physics courses must be calculus based.

- Basic conversational and reading proficiency in a modern foreign language or advanced reading proficiency in a classical language or completion of the fourth quarter of foreign language instruction with a passing grade.

- Three courses in an area unrelated to the major and focused in one department, subject area, or topic.

The courses that can be used to meet these requirements are listed in "Unraveling Revelle" a handbook given to all students and available on the World Wide Web (http://provost.ucsd.edu/revelle/unravrev.htm#unrav).

In addition to meeting these requirements, a student must also successfully complete a major, pass 184 units at least 60 of which must be upper division, attain a 'C' average in all work, and meet senior residency.

2. Statistical Information

For details, please refer to the full Revelle self-study, available upon request. For the purposes of this summary suffice it to say that the Revelle student body is similar to that of the full campus. Men (53%) slightly outnumber women, Caucasian (40%), and Asian (37%) students are by far the predominant ethnic groups, and more than 96% of the students come from California. More than half of the college's students (52%) are science majors with another 20% in engineering, a reflection of the unusual calculus/science general education requirements. Entering Revelle freshmen have traditionally been the best prepared on campus, with average high school GPA of 3.96 and SAT I composite in 1996 of 1255. Enrollment has been steady this past decade at around 3100 students, with an annual graduating class that has varied from 613 to 683.

Retention and graduation statistics have improved dramatically over the past ten years with the present five-year graduation rate of 77% one of the highest in the UC system. The college's organization is like that described in the introduction. An Executive Committee consisting of four elected faculty members (staggered two-year terms), the provost, two elected students, and, as consultants, the Director of Academic Advising and the Dean of Student Affairs meets at least quarterly. Full faculty meetings are held, as needed.

3. Assessment of Student Learning

The college primarily uses student surveys to measure progress in, and satisfaction with, its educational objectives. College staff review survey results and shape policies, programs, and procedures accordingly. For example, in the Fall of 1997, the student affairs staff spent a full day's retreat covering topics raised in the Quality of Campus Life survey, and the recommendations that came out of that retreat are now being implemented. The

college's Executive Committee used data from surveys to define the **Current Challenges** listed below in part 6. The surveys employed are largely those described in section II of this *Self-Study*, **Assessment of Undergraduate Outcomes and Campus Climate**. What the college gleaned from four such sources of information is summarized below. Full survey results are available upon request.

a. Quality of Campus Life Survey (1997)

This survey was an extensive one made available to all interested undergraduates and mailed to a random subset. Its focus was primarily "student life." Asked on a five response scale their overall attitude toward UCSD, 74% responded "very positive" or "positive." A comparable question on overall attitude toward the college scored slightly lower, 63%. When asked, "how well has UCSD lived up to your expectations," 88% of Revelle students responded favorably about academic expectations, but only 41% toward social expectations. When asked about academic programs, Revelle students' major complaints concerned "flexibility of degree requirements" and "class size." Compared with the other colleges, Revelle students reported slightly higher levels of satisfaction with the provost's office, but lower levels of satisfaction with residence life facilities (the oldest on campus). This survey suggests general student satisfaction with the academic expectations of the college.

b. College Student Experiences Questionnaire (CSEQ)

The CSEQ is a standardized survey used by numerous universities to assess the quality of undergraduate education. Last administered in 1994, data were collected both campuswide and broken down by college and can be compared with data from comparable institutions. Overall, Revelle students report substantial gains in "intellectual development," "general education," "vocational development," and "science/technology development." As would be expected, such surveys do not find universal satisfaction. Some students feel that Revelle College has "too many requirements" or that it stresses science and math too much. The humanities/writing sequence appears to be criticized more for its rigor than for its emphasis on Western Civilization. Asked if they would attend the same college were they to start over, roughly three quarters of Revelle students responded "Yes."

c. Beyond the Baccalaureate

Every five years UCSD surveys its graduates to measure their undergraduate experience and their current educational and employment activities. The most recent survey (1993) found that within five years, 66% of Revelle graduates had earned (34%) or were pursuing (32%) an advanced degree. The most popular fields of post baccalaureate study are the sciences (23%), medicine (22%), law (15%) and business/finance (10%). 92% of the colleges' graduates rated their preparation for graduate study as "excellent" or "good." Of those employed, 83% gave similar approval of the preparation for their careers. On a five part scale, 93% reported either a "very positive" or "positive" attitude toward UCSD.

d. Course and Professor Evaluations (CAPE)

Students at UCSD routinely evaluate their courses and professors, the results of which are made available in a public book. Such surveys suffer from well known inaccuracies, but have proven useful to the college and its instructors as one method for evaluating courses, particularly our required core humanities sequence. Overall, student response to the demanding sequence, typically seen by students as unrelated to their majors, seems quite favorable. For example, during the most recent year (1996-97), greater than 80% of respondents "would recommend the class" in eleven of the fourteen sections offered. Lower evaluations usually occur with younger, less experienced faculty, and are used as one of many sources of instructional improvement. Student comments on these forms can be particularly useful.

4. College Academic Programs

a. *Academic Advising*

A key function within the college is academic advising. The college's academic advisers must thoroughly understand and transmit both the college's academic requirements and the prerequisites to over 100 majors. The advisers assists students in determining their academic and career objectives, in planning their schedules and meeting all university requirements, but must also inform students about academic regulations and then enforce them. The staff currently consists of the Director of Academic Advising, four academic advisers (3.5 FTE), an intake counselor and two support personnel.

b. *Humanities Program*

The Humanities Program offers interdisciplinary courses in history, philosophy, and literature with a focus on major aspects of the Western humanistic tradition. The sequence of courses Humanities one through 5, meets the humanities and writing requirement of Revelle College. Instruction is university-level writing is part of all five courses, but students in Humanities one and two receive intensive writing instruction. The program is administered by a committee consisting of one faculty member from each of the three participating departments, the Writing Director, and the Provost, *ex officio*. This committee recruits and approves faculty to teach in the program, reviews and approves curricula and monitors the program's overall success. It is supported by the staff of the Humanities Program (1.75 FTE).

c. *Freshman Honors Program*

Outstanding freshmen are invited to participate in a Freshman Honors Program, either at admission (Regents' Scholars, National Merit Scholars, those with high school GPA's of 3.80 or higher and both MSAT and VSAT of 700 or higher), or after completion of one quarter with a GPA of 3.70 or higher. The program is administered by the provost and consists of a weekly faculty seminar (Revelle 20), individual advising, numerous social perquisites and increased opportunities for undergraduate research.

d. *Senior Honors Courses*

At present the college offers two interdisciplinary honors courses for seniors with GPA's of 3.50 or higher. The first, Revelle 100, Science and Civilization, is a small seminar that covers the distinction between science and technology by tracing their evolution from earliest times. From its inception the course has been co-taught by two of the college's most eminent faculty, biologist Jon Singer, and philosopher Avrum Stroll. The second, Revelle 110, Thinking About Science, is also a seminar, one that covers historical, philosophical, and sociological perspectives on science. The instructor is historian/sociologist Steve Shapin.

5. Student Affairs Within the College

One of the special features of the UCSD College System is the inclusion of both Student Affairs and Academic Affairs within a single office (seeFigures III.A and III.B). Even though this present review is largely of the college's academic mission, no self study could be complete without at least mentioning the college's complementary role in student affairs. It has been widely shown that students who are actively involved on campus tend to be both more academically satisfied and successful. Indeed, it was this premise which led to the combination of these two functions within the college.

At Revelle, three professional staff — the Dean, Assistant Dean of Student Affairs, and a Student Activities Coordinator — are responsible for college student activities and leadership training. In addition, under direction from the Dean of Student Affairs, a Resident Dean and three assistants oversee some 1,100 students who live on campus in either residence halls or apartments. The college's student programs run the gamut from programs for prospective students through new student orientation culminating with graduation. College activities and programs are largely, though not exclusively, directed toward lower division students. The colleges also work together with centralized student services such as the campuswide Associated Students, the Career Services Office, etc.

Some sense of the multifaceted responsibilities of the Student Affairs unit can be gained from a list of some of the unit's recent goals and objectives:

- Create and build a sense of community within the college.
- Increase student-faculty interaction.
- Expand interaction with students using new technology.
- Involve students in decisions that affect them.
- Provide more support for transfer students.
- Work to make all students feel welcome.
- Increase campus involvement of Residence Life.
- Continue to educate students on issues of diversity.
- Provide more fun, stress relieving activities.

The unit's major challenges include operating with a budget that (by comparison with other institutions) seems low and dealing with a highly stressful academic environment that leaves students with relatively little time to develop their social and personal skills.

- improve the quality of the undergraduate educational experience despite growth in enrollment;

- increase opportunities for faculty-student interaction through individualized research experiences, particularly opportunities that enhance student applicants for graduate and professional schools and for employment;

6. Current Challenges

The college faculty, staff, and students face the following challenges that this *Self-Study* has helped identify:

- How can we insure a diverse student body at Revelle College? Here we refer not only to the changing ethnic demography of our students, but also to the tendency for more Revelle students to major in science and engineering. Non-science majors, for whom it can be argued that Revelle's curriculum is particularly valuable, feel increasingly isolated and uncomfortable.

- How can we increase student identification and satisfaction with the college? We need to increase college based activities and improve academic advising within a very limited budget. Special efforts are needed to reach transfer students.

- How can we increase the percentage (currently 41) of our undergraduates who do some form of research/scholarly activity before graduation?

- How can we generate more resources? The colleges must not be allowed to become peripheral organizations within either Academic or Student Affairs. The college's major space limitations must be addressed.

- How can we better staff and support our core humanities sequence? This five quarter interdisciplinary sequence is difficult to teach and to staff. Faculty and TAs in this program need to be better recognized and supported. Discussion about these challenges and ways to meet them are ongoing.

The college plans to approach these challenges in a variety of ways. Forums and publications, featuring successful alumni, will stress the value of math and science for all majors. The goals of Studies Affairs require increased funding which is being sought both on campus and off. A "one on one" mentor program for new students has been introduced. The college is working with Thurgood Marshall and Eleanor Roosevelt to fund incentives for faculty who take on the difficult task of teaching our introductory, interdisciplinary core curricula.

C. John Muir College (Pat Ledden, Provost)

1. Introduction

Large public universities, particularly those which have an extensive research agenda, are often considered unfriendly to undergraduates. The staff and faculty of Muir College believe, quite to the contrary, that UCSD is a splendid undergraduate institution precisely *because* it is a distinguished research university. Two elements not available to most comparable universities help UCSD to be particularly successful as an undergraduate institution: the College system and our selective admissions. UCSD draws from the upper one-eighth of California high school students, in fact mostly from the upper range of that UC eligible pool. The College system here provides undergraduate students some of the reduced scale and sense of identification that are more commonly associated with smaller liberal arts institutions, but with the vast scholarly and research activity of UCSD accessible to them.

John Muir College, the second of UCSD's colleges, enrolled its first students in 1967. The faculty of the College numbers 141, of them 124 are tenured. Muir currently enrolls approximately 3,300 students. The typical freshman class is 600 and the typical new transfer enrollment is 300 per year. For many years Muir has received the largest number of applications. The students who enroll have excellent high school credentials and they major in all departments. When responding to student attitude surveys, Muir undergraduates regularly give Muir College high marks and express their satisfaction with their choice of college. Partly because of their excellent preparation, partly because of the flexible Muir curriculum, Muir students have the lowest median time to degree among the UCSD colleges and Muir has the highest percentage of its students who graduate in four years. Roughly 5% complete double majors. Four current UCSD faculty are Muir alumni.

The primary impact of Muir College is during its students' lower division years — from Orientation to the beginning of serious upper division work. During these first two years the principal academic advising takes place in the College and the student programming based in the residence halls has helped students with the transition to the university environment. During these years the students typically complete the College's modest general education requirements as well as the prerequisites for their majors. These two years are ones of complex intellectual and social development: students explore new ideas and interact with a rich mixture of people from a wide variety of cultures and backgrounds. The academic requirements of the College and the activities it sponsors are designed to contribute in a positive way to the intellectual and personal development of its students.

2. The Faculty

Formally the faculty of each College at UCSD constitutes a committee of the San Diego Division of the Academic Senate. The By-Laws of the College, including the academic requirements of the College, are set by the faculty of the College and are subject to approval by the Division. The Provost, who serves a five-year renewable term, is drawn from the Senate membership, ideally but not necessarily from the faculty of the College. In the past the assignment of faculty to the Colleges was essentially random. More recently the Provosts collectively have tried to assign new faculty to insure that each College has an appropriate balance of faculty from the various departments and to meet specific programmatic needs of the Colleges. Thus, if the Political Science Department should appoint a faculty person who is a specialist in feminist theory or environmental politics, she/he would likely be assigned to Muir. Adjustments in college affiliation of faculty are relatively simple. The Muir Provost has "recruited" faculty initially assigned to other colleges who have been active in the interdisciplinary programs initiated and supported by Muir: Women's Studies and Environmental Studies.

One of the many advantages of the College system is that it provides ready opportunities for faculty engagement in undergraduate curricular matters at the "local" level. For example, in the last nine years twenty-one different faculty (about one-sixth of the tenured faculty of the College) have served two year terms on the Muir Executive Committee. Executive Committee membership is not an onerous assignment, usually two or three meetings per year, but it does give a cross section of faculty access to and involvement in issues of undergraduate education broader than those which concern individual Departments. Many additional Muir faculty have participated in lunch programs with honors students and similar less structured contexts. Faculty are generally quite willing to be a part of such programs. The Provost reviews Departmental recommendations for merit increases and promotions of Muir faculty and comments on their contributions to the undergraduate program and on the quality of their teaching.

3. The Curriculum

The Muir College General Education curriculum as set by the faculty of the College is a straightforward version of the standard menu program of many colleges of Letters and Sciences. It consists of: a two-course sequence in analytical writing, a one-year sequence in a social science, a one-year sequence in science or mathematics, and two one-year sequences from among the humanities, fine arts, or foreign languages. The distinctive feature of this curriculum is its insistence on year-long sequences. The faculty had two reasons for this feature: first, it believed strongly that the ten-week academic quarter is simply too short for a satisfactory introduction to a discipline, and that, for example, one year of anthropology constitutes a more satisfactory introduction to the methods of the social sciences than three one-quarter courses say, in anthropology, sociology, and economics. Second, the faculty assumed that many of the year-long sequences used to complete the general education requirements would be the introductory sequences for the respective majors, and hence courses in which the various academic departments would naturally invest time and attention. The fourteen required general education courses leave thirty-one (out of the University of California minimum of forty-five) available for completion of the major and its prerequisites (although some of the general education courses may serve as major prerequisites as well). Thus Muir students who enter with even a modicum of useful advanced placement courses can complete a double major within the forty-five course standard. In establishing the menu of year-long sequences the faculty clearly understood that some students would graduate without taking calculus and that some would graduate without additional foreign language beyond the high school level. In practice the majority of Muir graduates do take at least some calculus and many take a foreign language — not because they must but because they wish to. Muir regularly ranks first or second among the Colleges in the number of its students who are elected to Phi Beta Kappa.

In its initial configuration, developed in the early 1970's, the Muir curriculum was slightly different from its present form. The initial pattern of requirements was somewhat simpler: one year sequences from two out of three

areas: the natural sciences, social sciences, and mathematics; and one year sequences from two out of three of the areas: humanities, foreign languages, and fine arts. Over time first a one, then a two-quarter writing requirement was added to the mix. In 1983, the Academic Senate decreed that each college would require some work in the social sciences. The simplest way that Muir could accommodate that requirement while maintaining its commitment to year-long sequences was to break down the "natural science, social science and mathematics" pattern into two parts, resulting in the present configuration. A number of faculty in Muir still resent the Senate's requirement on the grounds that within the Muir context it privileges the social sciences relative to the other major discipline groups. In 1992 the Muir faculty added as a graduation requirement that Muir students complete one course that deals in an essential way with some element of the cultural and ethnic diversity of American culture. This course may be taken as part of a general education course, a major course, or as an elective. The Muir curriculum continues to be strongly supported by the faculty of the College and to be popular with prospective students, current students and alumni.

4. Academic Advising

The primary advising of lower division students at UCSD takes place in the Colleges. Typically the process begins at Orientation and continues until the students shift to departmental advising for their major programs. The College also does the final degree check and authorization to graduate for each student. In Muir College a professional staff of five readily accessible advisors provides information to students about opportunities and requirements, reviews petitions and advises students in academic trouble. The advising staff also maintains a variety of individual programs: the Dartmouth exchange, the training of the Orientation Leaders, Education Abroad advising, and so forth. The Directors of Academic Advising of the five Colleges meet regularly to insure uniform enforcement of the campuswide academic regulations involving repeating courses for credit, dropping courses after the deadline, and the like, and to exchange ideas on how better to serve the needs of students.

The freshmen Orientation program is an excellent example of how the size of the College helps to give a personal dimension to undergraduate life at UCSD. Typically five hundred of the newly admitted freshmen at Muir attend one of the four Orientation sessions in late June. The remaining 100 participate in an orientation program just before the start of the Fall term. In June the students (and many of their parents) stay over night in the Residence Halls and receive a well-rounded day and a half introduction to life at Muir and UCSD. The central activity for the students is the intensive schedule of academic advising. Each of the five academic advisors is assigned a group of approximately twenty-five students with whom they work directly, both to discuss general policies and procedures and to provide individual counsel. The Provost of the College participates actively in the academic advising at Orientation, serving as the primary advisor for Regents and National Merit scholars and as a roving mathematics advisor to help settle sometimes difficult placement issues. Students leave Orientation with their classes for Fall term confirmed and, it is hoped, with a comfortable familiarity with an academic advisor who can continue to be helpful during the academic year. Similar but shorter Orientation Programs are held each term for new transfer students. For transfer orientation the direct involvement of both College and departmental advisors is essential because the transfer students are, at least in theory, ready to begin their major programs.

5. Student Life

In addition to supporting the academic interests of its students, Muir College also provides them access to a wide range of extracurricular activities on the firm conviction that these activities help the students succeed as students and help prepare them for their lives as productive citizens. Inevitably these activities engage most directly those students who live on campus (hence mostly those in the lower division), but the outreach is to all students. Muir sponsors many intramural sports teams, a popular on-campus television station, a twice-quarterly newspaper, a creative magazine, the yearbook and some 25 other student organizations. Muir students also volunteer in a variety of community service projects sponsored by the Environmental and Community Service Committees. Through

such College organizations as the Residence Hall Council, Commuter Council and College Council or by serving as a House Advisor, Orientation Leader, or College Center worker, students gain excellent leadership training and experience at a "local" level. A modestly sized professional staff supports the student activities program: Dean, Assistant Dean, Activities Coordinator, College Center Director, Resident Dean and two Assistant Resident Deans. Two staff members of the Counseling and Psychological Services are also assigned to the staff of Muir College and they work with the Advising and Student Affairs groups.

Two linked programs that are currently popular but by no means isolated examples give some indication of how the College provides opportunities not otherwise available on campus. Both developed directly from student initiatives. Each quarter the *Muir Theatre Troupe* puts on a play or plays in the Muir Commons -- a difficult space that seems to challenge rather than to daunt them. Students who participate are mostly not Theatre majors but simply individuals who enjoy being involved in these sometimes surprisingly sophisticated productions. In addition to the standard repertory, the Troupe has produced some plays written by Muir students. The annual *Muir Musical* has become a major campus event drawing on student resources from all the colleges. Recent productions of *Sunday in the Park with George*, *Sweeney Todd*, and *Into the Woods* attained a very high standard and were entirely student produced and performed. For each organization the College staff provides some administrative support and the Parents' Fund helps with the underwriting.

6. **Some Issues**

- In the context of the Intersegmental General-Education Transfer Curriculum (IGETC), how can Muir College preserve its characteristic identity while still meeting its obligations under the Master Plan for Higher Education in California? (see also section **4** in **V. Transfer Students**)

Background

The primary impact of Muir College on its students is during the first two years when general education courses and preparation for the major take up the majority of a student's academic program and when participation in the residential life of the College is customary. Thus, even in the best of circumstances the impact of the College on its transfer students from community colleges is minimal. The IGETC, the provisions of which increasing numbers of Muir transfer students are following, adds an additional measure of distance between the transfer students and the College because the IGETC package of courses does not reflect even the modest general education goals of the College. The net effect of IGETC is that a small but growing number of Muir graduates have done almost nothing specific to Muir College. In this context, what does "graduated from Muir College" mean?

- Is the administrative structure of UCSD adequate and appropriate for the continued development of the college system in the next ten-year period?

Background

The Colleges at UCSD are curious hybrids. Each is an academic unit with students, faculty, a curriculum, a staff of academic advisors, student activities staff, and residence halls and staff. In spite of their substantial responsibilities, the Colleges have none of the currencies common to the academic enterprise: control of faculty positions, space, budget, admissions, and the like. Much of the academic administration is now accomplished at the Divisional level which is orthogonal to the College structure. While the Colleges are generally consulted about issues of growth and academic development, they are rarely the dominant voice.

The Colleges depend for their resources on three Vice Chancellorial units: Academic Affairs is the lead unit: the Senior Vice Chancellor — Academic Affairs appoints the Provost and provides the basic administrative budget for the Colleges, and the faculty of the College are in the Departments of the General Campus. The Vice Chancellor — Student Affairs provides Registration Fee support to the Colleges for their student activities programming and that Vice Chancellor also supervises the Office of Admissions and Registrar, the central tutoring program called OASIS, and the Counseling and Psychological Services program. The Vice Chancellor — Business Affairs maintains the College residence hall operation. However scattered this arrangement may seem, in practice it works well, at least in part because the principal administrative officers all recognize the importance of a flourishing college system to the continued development of the campus. Within the next ten years the undergraduate enrollment of UCSD will increase by at least twenty percent and one additional College will be developed. Does the administration of the undergraduate enterprise need to be rationalized in any way to meet the requirements of this growth?

D. Thurgood Marshall College (Cecil Lytle, Provost)

1. Introduction

Third College opened its doors in 1970 and, as its name implies, was the third undergraduate college founded on the UCSD campus. From 1966-68, the preliminary discussions of the UCSD faculty led to the development of the core curriculum for College III (as it was known then) to focus on history and its theory. The first Provost, Dr. Armin Rappaport, was a history professor who proposed to name the college, Clio, after the Greek muse of history. But the events of 1968 changed all that. The assassinations of Dr. Martin Luther King, Jr., Robert F. Kennedy, urban riots, and the roar of the late civil rights movement pushed for a more compelling and contemporary focus to College III.

In response, UCSD faculty and students struggled to define the college's philosophy and curriculum in ways that reflected high academic excellence and the best aspirations of the period. In this sense, each of the UCSD colleges reflects aspects of the social and political enthusiasms of the era when they were founded. Beginning in 1968, more radical elements on campus proposed a daring open admissions policy and a curriculum that stressed the study of Third World culture. Led by UCSD graduate student Angela Davis and her mentor Professor Herbert Marcuse, the radicals pushed to name College III Lumumba-Zapata as a reflection of their Marxists/proletariat ideals. Chancellor William McGill negotiated a compromise that eventually led to confirming the name, Third College, in 1985, and the establishment of a college general education scheme not too unlike the other two colleges, Revelle and Muir.

Over the years, Third College has overcome the polar tensions of that charter debate and has impressed the best intellectual and social ideals of that period into its core philosophy and academic programs. Consequently, the first academic programs to emanate from the Third College faculty were academic departments and programs chiefly in the social sciences: Communication, Teacher Education, Third World Studies, Contemporary Black Arts, and Chicano Studies. Since the mid-1980s, other programs to evolve have included: Honors Achievement Workshop, a campuswide science support seminar originally targeting minorities in the sciences; Partners-At-Learning, a course that gives general education credit for training and placing undergraduates in local inner city schools as tutors; established formal student exchange programs with Morehouse College and Spelman College in Atlanta; and, the creation of a three-quarter core course sequence, Dimensions of Culture, for students enrolled in the college.

Because of the effort in recent years to "institutionalize" the founding aspirations of Third College, the question of finding a more meaningful name was undertaken again in the early 1990s. That effort culminated in the UC Regents approving the change of name from Third College to Thurgood Marshall College (TMC) in honor of the late supreme court justice and celebrated civil rights lawyer.

2. Curriculum

a. *Dimensions of Culture Program*

The Thurgood Marshall College General Education curriculum serves over 3,000 students at UCSD and is devised and overseen by an Executive Committee of UCSD Faculty who are appointed with affiliation in Thurgood Marshall College. Indeed, the odd-numbered UCSD colleges (Revelle, Marshall and Roosevelt) have embedded within their 14-17 course general education curricula, a core set of courses that frames the college's intellectual and philosophic interests. For Thurgood Marshall College, that set of core courses comprises the Dimensions of Culture (DOC) Program requirement for all TMC students. The DOC course sequence is an interdisciplinary course sequence that satisfies students' social science requirement and is taught by senior faculty typically drawn from the Communication, Sociology, Ethnic Studies, Philosophy, Literature, and Political Science Departments.

The DOC courses are closely coordinated with the Hewlett Diversity Lecture Series sponsored by Thurgood Marshall College that brings to campus persons relevant to topics covered in the courses. In 1996-97, for instance, the two Brown sisters who were the subjects of the famous 1954 United States Supreme Court decision, were invited. Similarly, in 1998 the lecture series has invited Mr. Fred Korematsu who was the subject of a 1944 Supreme Court decision (*Karematsu vs. United States*) that upheld the internment of Japanese-Americans during World War II. Mr. Korematsu's case ultimately led to the 1983 decision to order reparations for that group of Americans.

For the last two years, TMC has been conducting a Ford Foundation-sponsored evaluation of the merits of the Dimensions of Culture curriculum. This $100,000 grant has allowed faculty to conduct interviews with students currently taking the courses, seniors who are three years distant from the experience and, more recently, alumni. Ford chose the DOC program at Thurgood Marshall College to study in the hope of identifying a working model of a multi cultural curriculum at a public institution.

b. *Partners-at-Learning Program*

The Dean of Student Affairs at Thurgood Marshall College is responsible for running a program of courses aimed at student participation in public service. The most successful and largest is called Partners-At-Learning (PAL). Students may choose to enroll in a Teacher Education Program course which prepares and places them in inner city schools as tutors and mentors. Classwork centers on readings and discussions about the nature of public education, curriculum and community development. Additionally, each student has a "practicum" component which places them in school room classes to serve as tutors. Students enrolling and successfully completing all course requirements for PAL are granted academic credit which can be applied toward completing their General Education requirements at TMC. It is the belief that PAL captures the zeal and intent of the 1968 charter discussions in a way that is institutionally viable, relevant, and extends the student's developmental experience beyond the purely theoretical. Our faculty are considering the possibility of complementing this program with the establishment of a Public Service Minor which would afford students service opportunities with local non-profit organizations.

c. Honors Seminar

Each quarter, the highest achieving entering high school students are invited to join other UCSD students at TMC in a small seminar with faculty designed around a particular topic. Fall 1997, for instance, the topic picked up on the Princess Di/Paparazzi controversy to explore U.S. citizens' rights of privacy issues. Faculty and guest lecturers from the local media gave presentations centering on the freedom of the press and individual constitutional rights to privacy. Similarly, next quarter, the TMC Honors Seminar will have approximately 10-15 students meeting with half a dozen faculty and experts on questions surrounding ethics in biomedical and health care.

3. Campuswide Programs at TMC

a. Morehouse & Spelman Colleges Student Exchange

Following many years of discussion, Thurgood Marshall College led the campuswide effort to establish a formal student exchange program with both Morehouse College and Spelman College in Atlanta. As with the Dartmouth College student exchange program under the supervision of Muir College, any UCSD student can apply for the opportunity to attend any of these two historically black colleges in Atlanta. Students applying to spend their junior year at Morehouse or Spelman must have a UCSD grade point average of no less than 2.8, write a statement of intent, and submit to an interview with UCSD faculty and community alumni.

Students attending UCSD from Morehouse and Spelman are assigned a UCSD faculty advisor, and are provided with a small stipend to cover research activities with their faculty advisor. In some cases, the stipend has gone toward travel expenses to a plenary meeting, lab costs, and other expenses appropriate to introducing the student to research in their major subject area while at UCSD.

b. Honors Achievement Workshop (HAW)

Begun soon after the founding of Third College, the Honors Achievement Workshop was originally designed to provide low achieving minority students at UCSD with the opportunity of highly specialized and individual tutoring in chemistry, mathematics, and physics. This program has proven successful at raising the grade point average of students in specific barrier courses leading to majors in biology, chemistry, mathematics, physics, and engineering.

Since the passage of the UC Regents 1995 decision forbidding programs and admissions practices targeting race, gender, and ethnicity, the Honors Achievement Workshop has changed its enrollment practice to conform with Regental policy to include all students who come to UCSD from disadvantaged backgrounds.

c. UCSD Charter School

Because of the high admissibility index required to attend UCSD, high school graduates with moderate to poor academic backgrounds have never been accepted for matriculation. Historically, this has meant that African American, Latino, and just about all other low income students have never been accepted or attended UCSD in proportions commensurate with their representation in the California population. The UC Regents' SP-1 decision in 1995 exacerbated this phenomenon. In response to the historic under-preparation of these students, Thurgood Marshall College faculty led a campuswide initiative to establish a charter high-school at UCSD. This on-campus charter school was conceived as a single-track college-prep institution explicitly for highly motivated youngsters from disadvantaged backgrounds who had not academically performed up to what could be expected judging by test scores. The targeted student was one who met the profile of the local school district program called Advancement

Via Individual Determination (AVID): low income, medium to high standardized test scores, and indicators of high motivation such as homework completion, initiative, and some prior achievement.

The UCSD Academic Senate recently approved a proposal comprising a number of outreach initiatives, including an on-campus middle/senior charter school that the campus plans to open in Fall 1999. The next steps are the submission of the campus's proposal before the San Diego City School Board, approval by the University of California Regents, and successful fun- raising over the next eighteen months.

E. Earl Warren College (David K. Jordan, Provost)

Earl Warren College, founded in 1974, is the fourth of UCSD's colleges. Named after the three-time governor of California and Supreme Court Chief Justice, the college was not intended to have any special relationship to law, but rather to encourage the combination of self-reliance, professionalism, and good citizenship which Earl Warren had come to symbolize. The intellectual character of the college was also born of the configuration of UCSD colleges and our experiences with our college system at that time.

1. Curriculum

a. *Historical Context*

Briefly, the first two colleges (Revelle and Muir) were differentiated in having respectively closely structured and loosely structured curricula. When there were only two colleges the distinction was largely that Revelle tried to provide an education broad enough to include all undergraduate prerequisites for all majors, while Muir acknowledged that some students knew from the beginning what their majors were to be, and the college permitted them to get started on the majors from the Freshman year, even while completing the general education requirements in other areas. When the third college, now called Marshall, came upon the scene, its commitment to minority education and to the social action agendas of the late 1960s gave us the first college with a distinct "theme"; the planning of the fourth college therefore included attention to a theme.

b. *Broad Themes*

The theme that seemed the order of the day in 1974 was "jobs" and each student's continuing responsibility for considering a future career when developing a college major and its contrasting breadth requirements. Accordingly Warren College was born with a very strong commitment to career-related "pre-professional" education. This was how Warren came both to administer and to be the principal consumer of three campuswide programs: (1) an academic internship program giving students academic credit for largely off-campus practical experience overseen by on-campus advisers in their majors, (2) a minor program in Health Care & Social Issues, and (3) a minor program in Law & Society. The last two were, of course, transparently targeted at students looking forward to careers in medicine and in law. All three programs continue with great success today.

The theme of job-linked education was continued in engineering also, Warren being the only UCSD college that reduces its breadth requirements somewhat for engineering majors in recognition of the enormous burden of prescribed courses that national engineering boards impose upon undergraduates. We do this while at the same time seeking to retain something of the vision that UCSD has always had of broad scientific and humanistic education "even for engineers."

c. Description

The curriculum as envisioned by Warren's founding committee included a major and two minors, somewhat narrowing the scope of a student's education compared with the requirements of the other colleges, but increasing its depth in the areas undertaken. By taking two full minors, a Warren student would be in classes with students committed to majors in the same areas and could be expected to develop a fair degree of expertise in these two secondary areas. As the system developed, it soon was also stipulated that the three areas of the student's major and two minors should be non-contiguous, which for practical purposes meant that they would have to be distributed, one each, across the social sciences, arts & humanities, and sciences & engineering.

Minors at UCSD have been defined until quite recently as consisting of six courses, at least three of which are upper-division. Various departments have placed additional constraints upon them. Because the Warren minors were to be a college requirement, they needed a separate name from the department-controlled minors, and they were accordingly called, somewhat misleadingly, "programs of concentration" (abbreviated "PofC," "plural PofCs") to distinguish them as college-controlled. The accommodation for engineers, mentioned above, reduces these secondary areas to three courses each, at least one of which must be upper-division. A different, equally misleading, name used for this requirement for engineers is "area studies."

Additional requirements for all Warren students are one course in ethics (Philosophy or Political Science 27, "Ethics & Society") and two quarters of freshman writing (Warren Writing 10A and 10B). Because a student's major and two programs of concentration combine to require *at least* six upper-division courses in the social sciences and humanities, additional writing experience comes with the term-papers typically required for those courses.

In order to avoid excessive intrusion — perhaps it is more appropriate to say *further* intrusion — upon the important realm of a student's free electives, some additional requirements (one course dealing with "cultural diversity" and two courses in "formal skills") may be fulfilled by courses that simultaneously fulfill other requirements, either of the college or of the student's major department, and most students fulfill these two requirements in that way.

2. Transfer Students

The Intersegmental General-Education Transfer Curriculum (IGETC: see also section **V. Transfer Students**) is a statewide agreement with the Community Colleges that permits students with CC degrees to be admitted to CSU or UC with their lower-division breadth requirements regarded as completed. When it was enacted, IGETC posed a defiant challenge to the UCSD college system. Since the academic identity of a college depended heavily upon its distinctive curriculum, the possibility of transfer students finishing UCSD degrees in one college or another *without* having experienced these required courses seemed corrosive of the whole academic defense of the collegiate system. The decision was made to safeguard the integrity of our most structured curricula at the expense of our least structured ones, and accordingly Revelle and Roosevelt have maintained distinctive requirements for incoming transfer students, while Muir, Marshall, and Warren have, in general, relatively relaxed transfer requirements to provide a conduit for them.

At Warren, although our programs of concentration require six upper division courses, a special arrangement was set up by which IGETC students would take only two non-contiguous courses outside their major area. At this time roughly a third of our students are Community College transfers, the majority coming in through IGETC. Although Warren is the largest UCSD college, its entering freshman class is about the same size as that of Roosevelt, UCSD's smallest college. The large proportion of transfer students posses particular problems for our student affairs staff, as we shall see below.

3. Slogans

Because graduates of all of UCSD's colleges go on to find good jobs, and seem to do so in roughly comparable numbers, Warren has in recent years ceased to sloganeer about "pre-professional" education. All UCSD education is significantly "pre-professional," in actual fact, and for one college to single itself out as distinctively effective in this is to do a disservice to its sister colleges. Further, there is no evidence that the Warren curriculum, despite its being inspired by the putative needs of the pre-professional student of the early 1970s, is in fact any more useful to a student going into one of the professions than is the curriculum of any other UCSD college.

Accordingly, in recent years, we have stressed a different feature of our breadth requirements, namely that they provide greater depth of education outside a student's major at the cost of being somewhat narrower than the GE requirements of our sister colleges. A Warren physics major with one PofC in music and one in sociology, may know little about literature or economics, but will know a good deal about both music and sociology. There are students to whom this is an appealing prospect (just as there are students who prefer the scatter-shot approach), and this is a promise that we know we are able to fulfill.

4. Warren's Success

Warren's popularity with entering students, like the fact that it is the most usual goal of requests for inter-college transfer, suggests that the college has in fact developed into an institution that is attractive to a wide range of students. We also are attracting "more than our share" of UCSD's best students, it would appear: When freshmen are admitted, they are divided into two ranked groups, A and B. Although the campus typically admits 60% of its entering freshman class from Group A applicants, these applicants have never made up the majority of UCSD's entering class. In Autumn, 1997, about 40% of UCSD entering freshmen were from the Group A list. However for Warren College taken in isolation that figure was 60%, the highest of the five colleges.

5. Current Issues

Prolegomenon: Inter-College Differences. Certain features of the Warren curriculum have attracted comment over the years, and have been targets of proposals for change. It is important to understand that with a field of five UCSD colleges, the distinctiveness of any one of them may be seen quite negatively by supporters of another. The variation among our colleges was deliberate and is part of the genius of the scheme.

That said, simply avoiding the configurations of other colleges obviously does not in itself constitute a strength, and each of our colleges is and must be involved in constant self-examination, even as we must continue to monitor the choices provided students by the whole campus. Here then are three curricular "controversies" that seem to be alive at Warren today, and concerning which we are in various states of reexamination and decision making:

■ **Should we continue the policy of allowing (but not requiring) the P/NP grading option to apply to all Warren requirements?** General university policy provides that 1) no more than one quarter of a student's courses taken at UCSD and used in satisfaction of degree requirements may be taken P/NP; 2) any grade above D can be construed as a P for students who elect the P/NP option, whereas D and F convert to NP; P/NP grades have no effect on a student's GPA. Most departments specify that nearly all courses counted toward a major or minor must be taken for a letter grade.

All of our sister colleges permit some of their general education requirements to be filled by courses taken P/NP. Warren has traditionally been the only college with a blanket policy of allowing *all* of its general

education requirements to be met using the P/NP option, and the only college which offers *only* the P/NP option for its two required writing courses.

Warren's friendliness to the P/NP option is currently undergoing some re-examination. We are still gathering data to find out whether our students in fact use it more than students in other colleges do (excluding Warren Writing). However, a couple of troubling issues relate to it.

It is a widespread campus perception that Warren's requirements are "lighter" than those of other colleges in part because of the general availability of the P grading option. (The other component of this probably lies in our not defining our requirements by stipulating specified courses.) It probably is not a good idea for one college to be seen as easier than the others.

The potential for reduced motivation to do well in P/NP courses is obvious, although the reality is complex. Reduced motivation has been most explicitly argued by some instructors in the Ethics & Society course in recent years, and they have petitioned the Executive Board to recommend Academic Senate action to require a letter grade in that course. Action has been slow on this because of dissensus among the instructors themselves, but the Executive Board expressed preliminary approval in 1995, and the catalog was changed to remove the general statement that all requirements could be met P/NP, substituting the word "some" for the word "all," in anticipation of possible future restrictions.

On the other hand, an argument can be made for positive educational effects of the P/NP option, if not globally, at least in selected areas. Thus, the head of Warren Writing argues that it would be unreasonable to permit letter grades for our writing courses, since students are being asked to "take risks" with their writing and shouldn't be punished if doing so results in unsuccessful productions some of the time.

- **Why are engineers "special"?** Recall that Warren engineering majors take three-course "Area Studies" rather than six-course "PofCs." The "special deal" for engineering majors has come under discussion as potentially mischievous. The topic is not "hot" at the moment, but seems likely to come up for re-examination as the total configuration of colleges and the distributions of majors across them come under review as background to the planning of Sixth College.

  The "special deal" has made Warren home for a disproportionate number of UCSD's engineers. About a third of Warren students major in engineering, while the campus average is about 15%; the stereotype of a Warren student on campus is that of an engineer; and some engineering professors quite publicly direct students to Warren as the best (or only) college for engineering students. If we intend our college system to be truly orthogonal to our majors, then anything that tends to attract similar majors disproportionately to a single college is inherently subversive of that goal.

  Critics also argue that this arrangement is demonstrably unnecessary, since engineering students in the other colleges don't seem to need it, and it simply results in the Warren engineers being more narrowly educated (and probably less literate) than those enrolled in other UCSD colleges.

  Supporters argue that the three courses in each of two outside areas, plus Warren Writing and Ethics, produce adequate breadth for an engineering major. ("If for an engineering major, then why not for other majors?" the unanswered next question necessarily runs.)

  Supporters also argue that as long as the mean time-to-degree for engineering majors is significantly greater than it is for other majors, some reduction in non-engineering requirements for them makes sense,

not only in Warren, but also in other colleges if they too expect to attract these students and to graduate them expeditiously.

- **How should transfer students be handled?** The reduction almost to nothing of college requirements for IGETC transfer students was deliberate and responds directly to the state mandate to make a smooth path from the Community College system to UC degrees. This makes Warren, and hence UCSD, a "transfer-friendly" place. It does not follow that transfer students see us as home, however. Never was a group more generally resistant to programming efforts. These students not only commute but frequently hold off-campus jobs, and in any case come to UCSD because of the majors it offers, not for "the college experience" (let alone any package of general education requirements). The assimilation of transfer students is (inevitably?) quite incomplete, leaving most of them largely peripheral to the majority of "native" Warren students despite intense efforts to develop programming of interest to them. Clearly more even distribution of transfer students among the other colleges would help to resolve this "problem" in the sense that it would reduce the salience of it at Warren, but it would raise the very specter that Warren's commitment to accept an increased number of transfer students was intended to relieve: the "watering-down" of the degrees of our sister colleges. Hiding the problem in that way might tend also to reduce the total programming efforts directed at transfer students.

  How best to assimilate transfer students to the UCSD college system is a significant issue for the campus. If the sixth college turns out to be like Warren, we can anticipate that this will spread transfer students across more colleges, but it will almost require that six be rather amorphous in its educational philosophy. On the other hand, if the sixth college is to be as highly structured as Roosevelt or Revelle, protecting the integrity of that structure might place an obligation on Warren and Muir to accept an even larger proportion of transfer students, making one or both of us effectively a "transfer college." This may be desirable or undesirable, but it is an issue that we will need to face in the immediate future.

6. Warren Life

For the time being, Warren enjoys the newest residential complex on the campus. This is a fact much appreciated by students and is one of our most attractive "selling points" in recruiting new students. Our halls are well equipped, and the spacious complex is also host to a mix of graduate residences and "all-campus" (read: mixed-college) housing, increasing its range of student activities and interests. The complex includes ample activity space as well as a full-service dining facility and a late-night coffee-house run by our sundries store. Unlike three of the other colleges, we have a small computer lab with a score and a half of Macintosh work stations attached to the campus LAN. Perhaps the best sign of high morale and general spunkiness in the Warren Residential Life world is the fact that the students themselves abolished skateboarding on the premises in the interest of better quality of life. Programming is rich at all of the colleges, despite the constant expression of students' existential *Angst* in complaints of there being "nothing to do." Warren has the most ambitious college literary magazine, the oldest continually-published college newspaper, and some other unique activities, but it would be inaccurate to describe Warren programming as significantly different *over-all* from that of any other college. However it certainly reflects quite positively both on our staff and on the inventiveness of our students that despite our geographical position on the periphery of the campus, students from other colleges routinely participate in many Warren clubs and committees.

F. Eleanor Roosevelt College (Ann Craig, Provost)

1. Introduction

The college was established as Fifth College and accepted its first freshmen in Fall, 1988. In March, 1994, the Board of Regents approved the campus recommendation to name the college after Eleanor Roosevelt. The choice of name recognized Mrs. Roosevelt's extraordinary lifelong efforts and achievements on behalf of the principles of democracy and freedom in the United States and around the world. Her legacy is consonant with the educational philosophy of the college.

The curriculum and student life programs reflect the tenor of the times in which we were founded. The goal was to provide undergraduates with an internationally oriented set of general education requirements and co-curricular experiences designed to prepare them for advanced study and work in an intricate, interdependent global community. One founding premise of the college was ably captured by Eleanor Roosevelt in 1962 when she wrote that, "The greatest and most inspiring adventure of all time probably will be carried out in the next fifty years, the adventure of building a new world. As our young people come to have a closer and deeper understanding of that world and its peoples, they will learn that there is not one civilization, from the oldest to the very newest, from which we cannot learn."

The organizational structure of Fifth/ERC conforms to the structure and standard responsibilities of the undergraduate colleges at UCSD, encompassing design and administration of general education requirements, provision of general academic advising, and development of student affairs and residence life programs (see Figure IIIA & IIIB at the beginning of section III. Undergraduate College Self-Studies).

2. Educational Philosophy

In 1996, the college developed the following mission statement to crystallize our philosophy and guide us in program development and evaluation:

- To serve students interested in pursuing academic excellence, establishing the groundwork for success in their chosen careers or graduate study, and becoming lifelong learners and effective citizens in the 21st century.

- To foster the ideal of an education in the liberal arts and sciences, which develops intellectual capacities and expands general knowledge by exposing students to a variety of disciplines.

- To offer an academic foundation that is suitable for all majors, whether in the natural or applied sciences, the social sciences, or the humanities and the arts, and which prepares students for opportunities to study and conduct research with UCSD faculty and scholars.

- To feature dimensions of international understanding and cultural diversity in the general education curriculum and co-curricular programming.

- To provide a supportive community where students are valued and respected, where they are challenged and helped to succeed, and where they can develop a strong sense of membership and confidence about their roles in society.

In the pages that follow, we describe and briefly assess our pursuit of these goals.

3. Statistical Information about Students

Enrollment figures for Fall, 1996 profile the ERC student body. At that time, with a total enrollment of 1,838 students, 1,117 women constituted nearly 61% of our student body although men and women were equally represented on the larger campus. The distribution of our students according to ethnic origin compared roughly with campus averages with 45.5% Caucasian students, 44.9% students of color, and 9.5% whose ethnic origin was unspecified. In 1996, 461 new freshmen and 63 advanced standing students matriculated. With 88% of our new students as freshmen, we have a lower than campus average enrollment of transfer students.

ERC has attracted more Social Science than Natural Science or Engineering students. The distribution of major fields of study in the college in Fall, 1996 was:

Arts	66	3.6%	Science/Math	367	20.0%
Engineering	174	9.5%	Social Science	710	38.6%
Humanities	190	10.3%	Special/Undeclared	331	18.0%

The ten most popular majors at ERC are Political Science, General Biology, Psychology, Communication, Economics, History, Sociology, Biochemistry and Cell Biology, Animal Physiology/Neurology, and Economics/Management Science. Typically about one third of the students in an ERC freshman class are undeclared.

4. Academic Programs

a. General Education Requirements

ERC's general education requirements conform to a classic, structured conceptualization of the knowledge and skills required by well educated college graduates. All students must complete the following lower division requirements at UCSD or through transfer courses. The ERC Student Handbook and website provide students with lists of all of the courses at the University as well as the Advanced Placement examinations that satisfy the requirements.

- The Making of the Modern World, a six course sequence with two quarters of intensive writing

- Foreign language — three quarters of a language other than English

- Natural Science — two courses from an approved list

- Quantitative Analysis — two courses from an approved list in Mathematics, Computer Science, Statistics, or Logic

- Fine Arts — two courses from an approved list, one dealing with non-western music, theater, or art

- Regional Specialization — three courses (two of which must be upper division) from an approved list, dealing with one of eight specific geographic regions of the world

- Upper Division Writing — a substantial amount of writing at the upper division level

b. The Making of the Modern World and the Writing Program

Diversity and interdependence are the hallmarks of the modern world. It is easy to see this diversity reflected in departmental instruction on most of the world's major cultures and branches of knowledge. Yet a more challenging — and ultimately more important — task is to discover the connections that make the parts into an understandable whole. This is the aim of Eleanor Roosevelt College's six quarter core curriculum sequence, The Making of the Modern World (MMW).

Developed and taught by a team of professors from anthropology, history, literature, political science, and sociology, MMW helps students to search for connections -- between present and past, among the vast array of societies and civilizations that have inhabited the globe, and among the many forms of knowing that humans have used to make sense of their experience. The titles of the six quarters convey some of the scope of the material: Prehistory and the Birth of Civilization; The Great Classical Tradition; The Medieval Heritage; European Expansion and the Clash of Cultures; Revolution, Industry, and Empire; Our Century and After. MMW and the Writing Program are at the heart of the College's mission. Specifically, the sequence fosters:

Academic excellence: MMW provides examples of academic excellence in the reading assignments and in the practices and example of professors and teaching assistants. It offers instruction to develop critical thinking, research, and writing. The availability of honors discussion sections in the second year motivates students to develop the grades and analytic skills that will make them eligible to participate in the honors program.

Preparation for careers and graduate study: The Writing Program instructs students in the modes of inquiry and research presentation that are required in graduate study and in most careers. By emphasizing rhetorical analysis, it enables students to adapt their writing to various situations. Emphasis on collaboration and peer responses trains students to enter a business world where such practices are the norm. Students enrolled in the honors program receive especially effective training in the give and take of academic discussion, argumentation, and verbal presentation of their ideas. Students judged to be under-prepared or at risk have been offered enrichment study sections in study skills when funding permitted.

Lifelong learning and effective citizenship: Spending two years in MMW helps students to develop perseverance as well as collaborative and self-directed learning. The interdisciplinary character and the breadth of MMW have led many students to widen their intellectual horizons and to pursue multi-disciplinary and multi-cultural lines of inquiry. The readings, writing and research assignments, and interdisciplinary faculty encourage students to consider how different disciplines engage one another, and how they enlarge upon and bolster or challenge one other's assumptions.

International understanding and respect for cultural diversity: MMW explores the great cultural traditions of the world to foster respect for distinct political, social, religious, ethnic, and cultural traditions. First-year students are required to participate in a cross-cultural exercise, *BaFa BaFa*, that requires them to examine cultural assumptions and stereotypes. Teaching assistants are trained to help students discover connections between course content and contemporary social and cultural issues. Anecdotes from students who have returned from study abroad and comments from graduating seniors suggest that ERC students who participate

in junior year abroad programs consider themselves more prepared than their peers for intellectual exchange, travel, and interaction with their counterparts abroad.

Community building: Two years in MMW also provide the foundation of a unique community, particularly when this experience is accompanied by assignment to college residential facilities in which the conversation from the classroom can be extended into the living environment through study groups and co-curricular programming in Student Affairs.

c. Other Academic Initiatives

The college has undertaken a number of academic initiatives with extramural support. The Ford Foundation supported the original development of the MMW curriculum. Ford also funded a subsequent proposal to offer a total of 36 foreign language sections in seven languages attached to upper division social science and history courses. The goal of the latter project was to allow students to maintain and to increase their foreign language fluency, particularly after returning from study abroad.

Through its program on General Education in Research Universities, the Hewlett Foundation supported ERC symposia on human rights in 1995 and 1996, a review of the college's sophomore honors program, and planning for community service projects linked to foreign language proficiency. The symposia were designed in response to student pleas for more "practical" and "contemporary" educational experiences.

d. Evaluating Academic Programs

We regularly survey student opinions of the core courses via CAPE (Course and Professor Evaluations), an MMW survey, and graduating senior questionnaires. In 1995, students spontaneously circulated a petition to oppose redesigning the sequence. From these instruments we know that, overall, 75-85% of our students approve of the course sequence. We also know that students like some quarters more than others; they appreciate the course least when they are in the middle of the two year sequence; graduating seniors are much more appreciative of the course's capacity to build community, reduce ethnocentrism, and broaden students' horizons; and students who study or travel abroad find themselves better prepared than peers from other institutions to appreciate what they experience. We also know that many transfer students resent the requirement, and that engineering and science majors sometimes find it interesting but are not persuaded that their professional careers or their personal lives require training in writing or knowledge of other cultural or historical traditions. Some students would prefer to focus more on contemporary problems or cultural communities within the United States. Finally, it is clear that the faculty are most successful when they are lively, expressive, well-organized, expert lecturers who occasionally develop explicit linkages between historical material and contemporary social problems.

We do have some isolated measures of the success of our academic programs beyond standard student course evaluations. A survey of 1996-97 ERC graduates showed that:

- Approximately 53% anticipated some post-graduate training; 30% intended to attend graduate or post-baccalaureate programs during 1997-98, and 23% planned to attend graduate programs in the future. (The Career Services survey of 1994 UCSD graduates reported 34% enrolled in post-graduate study programs six months after graduation.)

- A majority (54%) worked, studied or traveled abroad for varying periods of time while at UCSD. Nearly one third (29%) studied abroad during their undergraduate years. Although we are the smallest college at UCSD, we send the largest number of students on study abroad programs (152/523 in 1995-96).

e. Academic Advising

Students at UCSD receive academic counseling in the colleges and through their major and minor departments (from both staff and faculty). In the college, full-time professional academic counselors provide a broad range of counseling services. Advisors work with our students all their years at UCSD, beginning with their admission and culminating in degree checks and graduation from the University. At ERC the Academic Advising unit has six staff: a Director, an Assistant Director, two academic counselors, a degree check coordinator, and an intake advisor.

Specifically, the Academic Advising unit's mission is 1) to provide students with the information and counseling they need to fulfill the academic goals of Eleanor Roosevelt College and UCSD, and 2) to track students' progress towards these goals. In addition to addressing academic issues and enforcing regulations, this includes encouraging and assisting students to develop the personal responsibility, independence, confidence, and skills which will enable them to become contributing citizens; and providing information and referrals which will enable students to take advantage of other college and University resources and opportunities.

Our academic counselors work with students in a variety of venues, including: brief walk-in advising, longer scheduled appointments, and programs and workshops. They counsel students on academic probation; provide degree checks regularly and when requested by individual students; and handle all petitions related to general education, departmental major and minor requirements, and exceptions to University policy.

5. Student Affairs

The Office of Student Affairs at Eleanor Roosevelt College is responsible for student life outside the classroom and in the residential areas of the college. The staff includes the Dean, Assistant Dean, Resident Dean, two Assistant Resident Deans, a Coordinator of Student Activities, Administrative Assistants, student Resident Advisors, and student interns. Student Affairs is particularly charged with supporting the first, fourth, and fifth elements of our general mission. The unit-specific goals are (1) to enhance the academic mission of the college by providing a learning environment that challenges and supports students' intellectual and developmental growth; (2) to foster a multicultural community of advocacy and support; and (3) to educate students to become responsible citizens in an increasingly global community.

The staff have developed more than a score of college-based programs and student-led organizations that are involved with campus and community service projects and leadership development. These programs include: The Celebration of Cultures at Home and Abroad, Multicultural Student Network, Inter-Cultural Communication Workshop, International Affairs Group, Developing World Citizens Leadership Program, and International House. Moreover, each year Student Affairs designs new programs to focus on the particular needs of commuter, transfer, and international students.

The Office of Residence Life pursues the same objectives through a number of programs that are specifically designed for on-campus students. Two student programming boards and the Resident Advisors promote programs in such areas as health and wellness; gender issues; gay, lesbian, and bi-sexual issues; alcohol and substance abuse; career strategies; food and nutrition; cultural diversity issues; and MMW study sessions. Through area-wide and hall-specific programs the Resident Advisors strive to create a strong and cohesive residential community, serving as the first line of contact and support for our students.

In a Fall, 1997 survey of ERC students living on campus, 82% of our freshmen and 84% of our continuing students agreed or strongly agreed that the extra-curricular activities and programs at ERC reflect the college's multicultural and global emphasis. Ninety percent of freshmen and 84% of continuing students agreed or strongly

agreed that ERC has a very distinctive identity in comparison to the other colleges. Outside of those planned within the resident student community, we have offered relatively fewer purely social programs than the other colleges, although the proportion is changing. Thirty-six percent of our freshmen and 30% of continuing students think that ERC does not offer enough social programs; on the other hand, 83% and 62% respectively feel that the college residential area provides "a good social environment." These results are generally consistent with the results of the Campus Climate survey which indicate that students are quite satisfied with the academic programs at UCSD, but much less satisfied with the social life.

6. Current Challenges

a. Helping Students Re-directed to ERC on Admission to Become Comfortable

On average, about 8% of applicants to UCSD currently express a first preference for ERC. Therefore, too high a portion of our new students have been *assigned* to ERC although at the time of their application to UCSD they expressed either no college preference or another college preference. This is a particular challenge given our thematic focus and structured curriculum and general education. Students are concerned that these requirements will extend their time to degree, although our average has been consistent with the campus average of 4.3-4.5 years to graduation. We are pleased to note, moreover, that in response to the final question on the survey ("I feel that ERC is the right college for me") 76% of the freshmen and 75% of the continuing (primarily sophomore) students responded in the affirmative. This suggests that beginning in orientation and through their stay at the University, our students become persuaded that they have found a college home at ERC.

b. New Student Recruitment

An inordinate amount of staff time needs to be spent in recruitment efforts. We are trying to increase our share of the UCSD Group A admits (a gradually increasing average now at about 10.8%), reflecting about 23% of our freshman class. We also seek to admit students who are drawn to ERC's curriculum, persuading students that our general education requirements are strong preparation for a wide variety of careers (even in medicine, science, and engineering). Finally, we need to continually monitor the balance between male and female students. As long as the college is not yet comfortably at steady state enrollment, recruitment will pose a challenge.

c. Staffing Core Courses

Every year, we need 18 ladder rank faculty to give up teaching one departmental course to teach an interdisciplinary course that stretches the boundaries of their own academic training and historical period of specialization. Each year, between six and nine instructors must be recruited and paid with temporary FTE funds because ladder rank faculty are not available. The only incentives that the college can offer for teaching in MMW are the advantage of undergraduate enrollments, support for teaching assistants hired in the program, and the intellectual excitement of teaching a unique course. Having no other leverage with departments or individual faculty, the college must administer a series of courses with a clear and compelling pedagogical mission, designed and approved by faculty, yet which faculty are reluctant to teach.

d. Staffing Academic Advising

At this time, ERC has the smallest academic advising staff among the colleges, in a context in which the UCSD campus compares unfavorably to peer institutions with respect to advisor/student ratios. Among the five colleges, only ERC's academic advising unit has no clerical support staff. All the colleges need support for additional academic counselors in order to administer the advising programs that students increasingly require. We need to be able to work collaboratively with Career Services and the academic departments to facilitate career planning,

graduate school selection and application, and development of community service and internship opportunities. We also need to provide more support for undeclared majors and for first-generation college students.

e. Lack of a Cohesive College "Neighborhood"

Student surveys consistently report dissatisfaction with the scattered ERC facilities and the absence of a college dining hall or activity center: in sum, with the "second class status" of ERC's physical resources. Currently approximately 900 students live in the present ERC residential facilities, including Residence Halls, the Pepper Canyon apartments, and International House. However, because our freshman class (538 students in Fall, 1997) cannot be accommodated in our present 296 freshman housing spaces, the college must reach out to nearly one third of our freshmen who live in residential space administered by other colleges, primarily Revelle. This fact, and the absence of a college-specific dining facility, complicates our programming and adds complexity to the mission of building a supportive college community for our students. This challenge will become more acute until the campus builds a new college campus for ERC, tentatively slated to open Fall, 2002.

IV. DEPARTMENTAL SELF-STUDIES

A. Introduction

1. Structure of this Section

Since 1964, when UCSD admitted its first class of freshmen, the university has simultaneously ascribed responsibility for promoting and protecting undergraduate education to a variety of offices and groups. Today these units include: the Senior Vice Chancellor — Academic Affairs, the four divisional academic Deans (Engineering, Natural Sciences, Social Sciences, Humanities and Fine Arts), the Provosts of the campus's five undergraduate colleges, the Academic Senate Committee on Educational Policy and Courses (CEP), other relevant Academic Senate committees, and some student services under the authority of the Vice Chancellor — Student Affairs. That a growing number of individuals and committees over the years play some role in overseeing undergraduate education at UCSD should not obscure the fact that the university has entrusted the faculty of the over 35 departments and interdisciplinary programs the campus currently houses with the ultimate responsibility of educating undergraduates and invested them with the authority necessary to fulfill that responsibility. In review after review the faculty of UCSD have demonstrated that they merit this high level of trust and authority.

This section of the *Self-Study* focuses on measures that UCSD academic departments have taken since the last accreditation review to improve delivery of the undergraduate curriculum, assure course availability, and promote interaction between faculty and students. Following an overview of recent developments in undergraduate education at UCSD, the section presents a very brief summary abstracted from each department's self-reflection on a number of issues, including:[18]

- the overall objective of the department's majors,

- how the department assesses quality and effectiveness,

- how the department makes faculty teaching assignments and evaluates teaching,

- how the department handles the training, assignment, and evaluation of teaching assistants, and

- how the department dealt with any issues raised in its most recent program review by the CEP.

The section concludes with some thoughts about the current state of undergraduate education at UCSD and the integration of the assessment activities presented in Section II with departmental efforts.

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[18]   In preparation for this *Self-Study* each department also reported to the oversight committee regarding a range of other important issues bearing on undergraduate education. These additional issues included: 1) what kinds of undergraduate research opportunities departments provide or sponsor; 2) how departments manage academic advising; 3) whether or not a department tracks its graduates, and, if so, how; 4) how departments see their interactions with the five colleges; 5) how departments deal with transfer students (which is also the focus of section **V. Transfer Students**); and 6) how departments use technology to enhance undergraduate instruction (which is also the focus of section **VI. Technology in Undergraduate Education**). The full texts of the departmental self-studies and CEP reviews are available in the visiting team's accreditation library.

2.   Highlights of Undergraduate Education

In general, UCSD faculty take their instructional responsibilities very seriously and, since the last accreditation review, the campus has sought to address the issue of the quality of instruction in a number of ways. Many departments have restructured their curricula, reallocated resources, instituted systematic efforts to assign effective faculty to large lecture courses, and initiated new ways to bring faculty and students into closer contact. The Introduction to this *Self-Study* noted earlier some of the large scale results of these efforts in terms of significantly improved retention and graduation rates. But there is other evidence as well.

Student evaluations, a student-run effort begun in 1973 and known as CAPE (for Course and Professor Evaluations), remain universal at UCSD, continue to be refined, and are used extensively in the process of faculty review for promotion and tenure. Although the increasingly common use of marketplace metaphors, with students as "consumers" and faculty as "providers" of "services" or "products," tends to do a grave injustice to the rich relationship that can exist between faculty and students, it is a fact that students are indeed capable of providing useful information to faculty and fellow students about their experience of instruction in the classroom. Several years ago, a study of four year's worth of CAPE reviews revealed that:

- overall, 88% of students gave their professors favorable ratings and 77% gave similar evaluations of their courses;

- 80% reported that they would recommend the faculty they evaluated to fellow students;

- evaluations tended to be somewhat harsher overall for engineering, science, and math courses than for humanities, fine arts, or social science courses;

- evaluations for class sizes of fewer than 50 students were the most positive, while evaluations for very large classes of more than 300 students were almost as positive as for the smallest classes and better than for the class size increments between 50 and 300.[19]

But the students are not alone in monitoring and reporting about the quality of instruction.   Peer review of syllabi remains widespread and a central part of faculty evaluations. The Academic Senate's Committee on Educational Policy and Courses (CEP) also scrutinizes the undergraduate program of each department on a seven-year cycle. It must be said, however, that faculty at UCSD have not embraced the creation of "teaching portfolios" for evaluating classroom performance. And, except in the case of temporary or adjunct faculty and teaching assistants, classroom visitation by regular faculty for the purpose of evaluation remains uncommon. Given the overall trends in retention and graduation, the strongly positive reviews by students, and the care that faculty devote to assessing the course content of their peers and apprentices, it would be very difficult to make a convincing argument for the proposition that undergraduate education is, in the words of UC systemwide report a decade ago, "a neglected child" at UCSD.

a.   *Timely Progress Towards Graduation*

UCSD has no widespread problems with regard to course availability. Departments and programs have continued to improve their responsiveness to isolated availability problems. In particular:

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[19]   The campus views this phenomenon as a consequence of departments' efforts to put their best lecturers in the largest classes as well as students paying attention to CAPE reviews and seeking out the best instructors.

- the departments offering lower-division general education and other required courses have *all* instituted measures for tracking enrollments closely and offering more lectures, sections, or laboratories as necessary to meet demand — sometimes at the last minute for a given quarter, sometimes for subsequent quarters;

- several departments (Applied Mechanical and Engineering Sciences [AMES], Biology, Computer Science and Engineering [CSE], Physics) report that they are now making, or will soon make, extensive use of surveys to assess the adequacy of the course offerings — as well as other aspects of their undergraduate programs;

- several departments (for example, Political Science, Visual Arts, and Electrical and Computer Engineering [ECE]) have now completed the process of revising and restructuring their curriculum, and improving their advising, so that *every* department now teaches a sufficient number of undergraduate courses for *all* students to be enrolled on a full-time basis, and for them to make timely progress toward graduation *if they choose to*.

Because of these reforms and adjustments, students in any major, including those in engineering, now stand a reasonable chance of graduating in four years.

b. *Improvements in Advising And Other Forms of Help*

Some of the improvements in course advising deserve special mention. Although advising by itself does not directly enhance course availability, students who receive better advising do a better job of taking advantage of the courses that are available in order to move through their programs.

- AMES now assigns a faculty advisor to *every* major *and* pre-major.

- Biology has assigned faculty specifically to advise current majors, transfer students, education abroad, and post-baccalaureate education students and is also initiating a seminar series on careers in biology.

- CSE added more staff in 1995-96 to focus specifically on helping undergraduates progress through the program and brought all student services staff into geographical proximity to increase efficiency.

- Physics has a Vice Chair for Education and its own Committee on Educational Policy.

- *All* departments and programs now have home pages on the world wide web which include, at a minimum, descriptions of the majors and/or minors and the course prerequisites and required courses, and some departments have gone much further in improving the accessibility of schedule and other course-related information and materials:

  - the Biology department now offers students interactive degree checks through its web page, and the Sociology department has plans to offer similar capability soon;

  - the AMES web site offers a comprehensive student handbook, and Biology and AMES both provide laboratory safety information online;

  - the Biology and Physics departments are beginning to make key course materials, such as readings and lab manuals, available through their web sites; and

- the Linguistics department is now using a secure web site to allow students to check their performance on quizzes in some courses.

■ Beginning in 1995-96 *all* incoming students automatically receive electronic mail accounts and addresses. Accordingly, most departments report greatly increased use of electronic mail to keep students abreast of developments in their fields and programs.

In addition to making greater use of available technology, many departments are expanding their use of meetings to disseminate information, answer questions, prepare students for graduation, and to socialize (which also often has the effect of increasing informal contact with faculty). For example:

■ CSE has embellished its Student-Faculty-Industry Forum series which brings industry representatives on to campus and also introduces students to faculty research, and the department has increased the number of information meetings with recruiters from industry and the number of internships in companies;

■ The Graduate School of International Relations and Pacific Studies (IR/PS) sponsors a series of meetings with industry leaders called "Meet the CEO".

■ The departments of Anthropology, Biology, CSE, ECE, History, and Physics, IR/PS, and the Russian and Soviet Studies program all hold regular "town meetings".

■ The Chemistry and Biochemistry department also maintains a Help room that is open six nights a week to encourage person-to-person contact and problem-solving.

3. Trade-offs

The trade-off most frequently mentioned as a consequence of focusing more attention and resources on undergraduate, lower-division education, is the tendency to reduce the diversity of majors and courses at both the upper-division and graduate levels. Nonetheless, by reforming the curriculum and carefully managing faculty workload, some are offering new courses (or resurrecting others after a lapse of several years) despite limited resources. For example, just in the last year:

■ the departments of Biology (14), CSE (5), ECE (2), Mathematics (2), Linguistics (1), Sociology (1), and History (21) have all inaugurated new courses this last year or revived dormant courses; and

■ the Chemistry and Biochemistry department began a new major (Pharmacological Chemistry) and the Mathematics department has plans to start a new major this year (Math/Applied Sciences) in direct response to student interest.

In contrast, some departments report that they have not yet recovered sufficiently from VERIP-related losses of faculty to make additions to their offerings. Other departments report that upper-division class sizes are growing significantly as more faculty resources are focused on the lower-division. Budgetary constraints have resulted in some departments inviting less-distinguished visitors and hiring less-experienced temporary faculty to teach, which indeed lowers quality — but, because of stringent hiring practices, not below an acceptable threshold.

4. Use of Technology to Increase Access to and/or Quality of Courses

UCSD academic departments continue to expand their use of computer and communication technologies as time and resources permit. Within the last year:

- the Departments of Chemistry and Biochemistry and of Biology have begun expanding their use of computers in conjunction with wet labs (in fact, laboratory software developed collaboratively by these two departments was recently highlighted in a publication of the Howard Hughes Medical Institute as an example of innovation in Biology education);

- the Linguistics department is now offering an entire French course on the web that uses links to web sites in France to expose students directly to contemporary French; and

- several departments have succeeded in winning equipment grants from industry and are seeking more, but this source of support is not as reliable as the faculty (and, ultimately, the students) would like.

It is important to note that the increasing use of electronic communications technologies continues to raise serious concerns on the campus about unrealistic expectations on the part of the public and legislature regarding the speed at which faculty can apply new technologies to the delivery of instruction as well as the prospect of dramatic improvements in the efficiency of course delivery. Several departments have discovered that developing courses using innovative technology consumes *much* more time and money than traditional pedagogical approaches (at least at the beginning) and that time and money for course development are in chronically short supply for faculty — especially at research universities. Constraints on time and money (which can be translated into equipment and personnel) are already serving to forestall, slow, and sometimes even stop instructional-related technological innovation in departments. There is further concern among some in the administration and faculty that reliance on expensive and time-intensive technologies may actually *reduce* the one-on-one interaction that is so essential for the intellectual and personal development of our students.

In summary, in some areas UCSD has already reached the limits of its ability to reallocate resources in order to encourage the development and application of new instructional technologies. So, while asking for more resources may not be popular politically, the alternative — further slowing or stopping the application of new technologies to instruction — seems even less tenable; thus the UCSD's strong support for the proposed technology fee for students if greater financial resources are not forthcoming from the state.

5. Efforts to Increase Interaction Between Faculty and Students

a. Task Force on Faculty Workload

UCSD has made numerous efforts, with much success, to address concerns that have arisen over the years about undergraduate education in the UC system. On a campuswide level, in August, 1995, the UCSD administration and Academic Senate convened a task force to review current campus workload polices and practices, to examine the teaching workload data the campus collects (both for external and internal purposes), and to develop recommendations pertaining to these areas. The Task Force on Faculty Workload submitted its final report in September 1996, and recommended, among other things, that:

- "...departmental workload statements be expanded: (1) to encompass all aspects of faculty workload, including both formal and informal teaching at all levels, different forms of service, and all research-related activities; and (2) to describe the permissible tradeoffs among the various categories of workload."

- "In order to ensure that the teaching workload data accurately reflect faculty teaching effort, (1) the reporting methods should be revised so that courses are properly classified, (2) departments should include all formal teaching activities in the Schedule of Classes, (3) informal teaching activities should be documented and reported by departments, and (4) reports on teaching workload should be reviewed by department chairs and divisional deans prior to being sent to the Office of the President."

b. Undergraduate Seminars and Honors Programs

Student response to lower division seminars remains extremely positive. One sign of this is a simple tally of changes in the total number of seminars and their enrollments since 1994-95:

- Since 1994-95, undergraduate seminars increased from 79 to 82 and enrollments from 1,379 to 1,462.

- Similarly, undergraduate honors seminars and projects increased from 16 to 22, with enrollments growing from 53 to 203.

c. Undergraduate Research Opportunities

At a research university of UCSD's caliber many opportunities for undergraduates to get involved in research occur quite naturally. Many upper division undergraduates take advantage of the opportunity to enroll in independent or small group studies supervised by faculty.

- Between 1994-95 and 1995-96 the number of such courses increased from 675 to 712 and enrollments from 1,260 to 1,292.

- Many students work as paid research assistants to faculty.

- Several departments are also taking more active steps to increase student exposure to, and participation in faculty research. For example:

- the Biology department has won several grants, and is seeking more, to increase its already high level of student involvement in research and, to enhance the department's ability to channel students to appropriate faculty for research experience, is building a database of faculty research that includes not only the department but faculty at Scripps, Salk, and the School of Medicine as well;

- CSE is continuing its annual undergraduate research poster competition (closely supervised by faculty);

- ECE now requires all students to undertake a faculty-supervised research project;

- Physics has several custom-made (by award winning faculty) research tools and experiments that are integrated into its upper-division laboratory courses for majors;

- the Biology department has expanded its integrated B.S./MS program, which involves students directly in research as a requirement;

- Linguistics increased its participation in the Faculty Mentor program;

- the History department began offering opportunities to conduct research in independent study field work conference courses; and

- the new Honors Seminars in Communication require that students become involved in faculty research.

d. *Increasing Faculty-Student Interaction Outside the Classroom & Lab*

Several departments report greater faculty involvement in student organizations associated with majors, such as:

- CSE faculty involvement in the Student Chapter of the Association for Computing has grown along with increased student enthusiasm and activity;

- Physics continues to enhance faculty involvement with undergraduate organization, the Undergraduate Physics Research Center;

- senior faculty in Economics continue to expand their involvement in growing student organizations affiliated with the department, including the Financial Management Association, the Alpha Kappa Psi Fraternity, and the Investment Club (the last two of which also include students from other departments).

UCSD also utilizes a number of other approaches to bringing students and faculty together. These approaches include: the Faculty Mentor, Ronald E. McNair, and Health Professions programs; departmental meetings with majors or potential majors (the number of which meetings is growing); student participation in department policy-making; and research seminars and conferences.

B. Departmental Self-Studies by Division

1. School of Engineering

a. *Applied Mechanics and Engineering Sciences (AMES)*

Overall Objective of the Department's Majors

The AMES undergraduate programs are designed primarily to prepare students for careers in engineering or for graduate education. Students interested in preparing for graduate training in law, business administration, or medicine also major in engineering and the department offers a six-course minor in engineering mechanics for students entering fields where they expect to communicate with engineers. All AMES programs emphasize laboratory experimentation, numerical computation, and design. The department's B.S. programs in chemical, mechanical, and structural engineering are accredited by the Accreditation Board for Engineering and Technology (ABET). The B.S. programs in aerospace engineering and engineering science are not separately accredited.

Assessing Quality and Effectiveness

The separate accreditation by ABET of several of the department's programs provides a rigorous evaluation and review process in addition to the regular reviews conducted by the CEP, questionnaires the department submits to graduating seniors, and quarterly faculty and staff meetings with AMES students. From its inception

the department has had a reputation for being extremely competitive in its entrance requirements and stringent in its grading.

Faculty Teaching Assignments and Teaching Evaluation

The Chair of AMES makes teaching assignments in close collaboration with individual faculty and the sub-chairs of the chemical, mechanical, and structural engineering groups. CAPE reviews are taken into account in making assignments. Faculty normally teach four one-quarter courses per year. New and junior faculty receive some reduction in teaching responsibilities (to two courses/year), as are faculty with large research programs (to three courses/year).

Selection, Training, Assignment, and Evaluation of Teaching Assistants

The AMES Student Affairs Coordinator assigns Teaching Assistants on the basis of the rank assigned by teaching faculty to applications received from graduate students with at least a 3.0 GPA and proficiency in English. New TAs must take a teaching workshop either from the department or from the Center for Teaching Development. The department appoints one Senior TA to coordinate the department's TAs. Students evaluate the TAs at the end of each quarter, as does the responsible faculty member and the Senior TA. TAs are also required to evaluate their own performance.

Issues Raised in the Most Recent CEP Program Review and Departmental Responses

The CEP review in 1992, which was very positive overall, identified two areas that it asked the department to address: 1) student complaints about a lack of adequate advising, and 2) the fact that students were experiencing great difficultly graduating in four years. The department responded to the first concern by assigning a faculty advisor to every major *and* pre-major and increasing the department's use of quarterly meetings for disseminating information about courses and schedules. With regard to the second concern the department restructured course scheduling and course offerings so that students can now reasonably expect to graduate in four years.

6. Bioengineering

Overall Objective of the Department's Majors

Bioengineering began as a separate program within AMES in 1966 and was established as a department in 1994. There are two degree tracks in the department: 1) Premedical Bioengineering and 2) Bioengineering. The first is geared towards preparing students for further training in the medical sciences professions, the second, which is accredited by ABET, prepares students for careers in industry, research and development, or graduate education. With an eye toward ABET accreditation, the department has completed development of a third track, just approved by CEP, that will emphasize biotechnology and chemical processing.

Assessing Quality and Effectiveness

In addition to the rigorous process involved in winning ABET accreditation, the Dean of the School of Engineering recently appointed a Visiting Committee of outstanding faculty members from other Bioengineering programs and representatives from industry to review the departmental academic programs and offer advice about the future development of the department. Additionally, as part of a Whitaker Development Award made

to the department in 1994 by the Whitaker Foundation after an intense competition, a technical site visit team has evaluated the department annually as part of the process for renewing and extending the award.

Faculty Teaching Assignments and Teaching Evaluation

The Chair makes teaching assignments based on departmental need and faculty preferences. All faculty participate in resolving matters pertaining to the structure, evaluation, and revision of the curricula at the department's weekly faculty meeting. The department's Undergraduate Affairs Committee, comprising three faculty members, the advising staff, and student representatives, takes the lead in managing instructional activities. The department uses information gleaned from faculty, students, TAs, the department's Master Teaching Assistant, CAPE reviews, and exit surveys of graduating seniors to assess the quality of the instructional program.

Selection, Training, Assignment, and Evaluation of Teaching Assistants

The department requires that all Ph.D. students gain experience teaching for four quarters at 25% effort (10 hours per week), taken as a course for academic credit. In light of this requirement, the Student Affairs Coordinator assigns students to TA. Before students receive TA assignments, the department requires that they participate in a TA workshop/training coordinated by our department and the department's senior TA. In addition, TAs participate in the campuswide TA Orientation coordinated by the Center for Teaching Development. Faculty evaluate the TAs who assist them each quarter.

Issues Raised in the Most Recent CEP Program Review and Departmental Responses

The Bioengineering department has not yet undergone a CEP review of its undergraduate program.

c. *Computer Science and Engineering (CSE)*

Overall Objective of the Department's Majors

Undergraduates in CSE have two goals, shared by the faculty: 1) obtain a high-quality and well-rounded education in computer science that will equip them either for immediate professional employment or graduate school, and 2) to graduate in four years. On its own initiative the department enhanced its undergraduate programs and curriculum, by strengthening lower-division prerequisites and simultaneously streamlining and augmenting the upper-division curriculum. Since 1994 the department has offered three state-of-the-art tracks, a B.A. in Computer Science, B.S. in Computer Science, and a B.S. in Computer Engineering, all of which are structured and scheduled so that students can reasonably expect to graduate in four years.

Assessing Quality and Effectiveness

In addition to the very active role that faculty have taken to ensure that the department's course offerings meet or exceed the best offered by its peers, the department also has a standing Undergraduate Committee comprising faculty, three staff (the undergraduate Program Representative, the Student Affairs Coordinator, and the Management Services Officer), and at least one undergraduate student representative. This group plans and monitors scheduling for undergraduate courses and ensures that any issues related to the curriculum are brought to the attention of the faculty.

Faculty Teaching Assignments and Teaching Evaluation

The Vice Chair for Undergraduate Affairs, in conjunction with the Chair of the Undergraduate Committee and the Chair of the department, makes the teaching assignments. The Vice Chair normally assigns four courses per year, two undergraduate and two graduate. In addition to faculty expertise, the Vice Chair also takes CAPE reviews into account in making assignments. The department also has a voluntary "peer review" program in place through which a colleague will observe a class and provide feedback. The Vice Chair and another faculty member will normally observe new temporary lecturers and review syllabi and CAPE reports. Sub-standard lecturers are not rehired. Consequently, over time the department has developed a pool of proven temporary lecturers.

Selection, Training, Assignment, and Evaluation of Teaching Assistants

After polling faculty and graduate students with regard to preferences and expertise, the Vice Chair for Undergraduate Affairs, the Senior TA, the TA Faculty Advisor, and the Student Affairs Coordinator make TA assignments quarter-by-quarter. All new TAs must complete a training program offered by the Center for Teaching Development (CTD). The Senior TA also organizes a departmental orientation for new TAs to deal with discipline-specific teaching issues. The Senior TA also helps trainers from the CTD observe and assist TAs. Each TA receives a *CSE TA Manual*, which is now also on the department's website. The Senior TA acts as a liaison between TAs and faculty with regard to workload and as an ombudsman to help resolve teaching-related issues. Students evaluate TAs at the end of each course, as do faculty (who are also encouraged to discuss their evaluations with their TAs), and these evaluations are taken into account in subsequent assignments.

Issues Raised in the Most Recent CEP Program Review and Departmental Responses

The CEP conducted its last review in 1991 and, " ... found no weaknesses in the CSE undergraduate program that stood out and called for correction. ... The problem most consistently mentioned, both in the student and faculty questionnaires, related to TAs, who were too few, too overworked and sometimes poorly rated by students." In response the department instituted the process described above (in Selection, Training, Assignment, and Evaluation of Teaching Assistants) and the situation has improved substantially.

d. *Electrical and Computer Engineering (ECE)*

Overall Objective of the Department's Majors

ECE offers three majors, leading to either a B.S. in Electrical Engineering, a B.S. in Computer Engineering, or a B.S. in Engineering Physics. The programs are designed to prepare students equally for immediate entry into professional positions or to pursue graduate education. Recent revisions to the curriculum mean that students stand a reasonable chance of graduating in four years.

Assessing Quality and Effectiveness

In addition to the regular CEP reviews and the intensive evaluation involved in winning accreditation from ABET, the department also receives feedback regarding quality and effectiveness from regular surveys of seniors, from the post-graduate survey conducted by the Career Services Center, from industry through the Corporate Affiliates Program instituted by the Dean of the School of Engineering, from regular meetings between the department's Undergraduate Affairs Committee and academic advisers, from student representatives invited to faculty meetings, and from direct interaction with students.

Faculty Teaching Assignments and Teaching Evaluation

In general, ECE faculty are responsible for teaching four standard quarter courses per year, with different courses receiving different weights in the calculation (seminars are not counted, large lecture/lab courses receive extra weight, as do new courses the first time they are taught). New faculty and assistant professors are responsible for teaching three courses per year, and the department makes other adjustments on a case-by-case basis. The Chair of the department makes all teaching assignments. The department makes extensive use of the CAPE reviews in its assessment of the quality of instruction.

Selection, Training, Assignment, and Evaluation of Teaching Assistants

TA assignment and evaluation is a product of a highly interactive process between faculty and graduate students. The main mechanism for evaluation is the relationship between the supervising faculty and Tas, and student opinions obtained from CAPE surveys also play a role. Instructors are asked to evaluate their TAs formally at the end of each quarter.

Issues Raised in the Most Recent CEP Program Review and Departmental Responses

The CEP conducted its most recent review in 1991 and alerted the department to three areas of concern: 1) students were normally taking five or more years to graduate, 2) students needed more laboratory work involving design, and 3) students found it difficult to obtain adequate advising. The department moved immediately to institute improvements in all three areas, and the situation is now much improved on every count.

2. Natural Sciences

a. Biology

Overall Objective of the Department's Majors

The faculty of the Department of Biology has designed its undergraduate programs either to prepare students for graduate study in the life or health sciences or to provide its students with "a significant part of the scientific competency increasingly necessary at the end of the twentieth century." Whether its students become professional scientists or not, the department is also committed to providing all its students with hands-on laboratory experience.

Assessing Quality and Effectiveness

A faculty member serves as the department's Vice Chair for Education overseeing and coordinating the continuous efforts to refine and improve the curriculum. The Vice Chair also serves as Chair of the Education Committee, which is responsible for the management of both undergraduate and graduate curricula. In addition to these formal, intra-departmental efforts to monitor quality, the Biology Department has also paid close attention to its CEP reviews and rankings by external agencies such as the National Research Council (NRC). In the 1995 NRC rankings, several of the department's graduate programs ranked among the top nationally in their disciplines. While not a direct measure of the quality and effectiveness of the department's undergraduate programs, the NRC ranking is indicative of the quality of the faculty and graduate students, both groups of which directly affect the quality of the education offered to undergraduates.

Faculty Teaching Assignments and Teaching Evaluation

The Education Committee makes teaching assignments and evaluates the performance of tenured faculty as well as temporary lecturers. In addition, senior faculty personally monitor new assistant professors and temporary lecturers to ensure quality. The Education Committee monitors informal feedback from students and TAs as well as the quarterly CAPE reports. The department is currently exploring other ways to assess instruction that do not impinge upon academic freedom.

Selection, Training, Assignment, and Evaluation of Teaching Assistants

TAs from within the graduate programs of the department receive their assignments through a peer-review process overseen by the Chair of the Graduate Committee. Graduate students from outside the department may apply to be TAs and are normally selected by the faculty member responsible for a particular course. Outstanding undergraduate students may also be selected to serve as Readers/Tutors.

The Vice Chair of Education Committee bears responsibility for overseeing the entire TA program. All Biology TAs must participate in an extensive training program before and during their service. They are observed during their first three weeks of teaching and receive consultation and advice to improve any weaknesses. Students and instructors evaluate the performance of TAs at the end of each quarter, and the three most outstanding receive a teaching award.

Issues Raised in the Most Recent CEP Program Review and Departmental Responses

The most recent CEP took place in 1996 and found that the "...Department is widely regarded as excellent....[The NRC] rankings testify to the high quality of the faculty and a continued commitment to excellence....The reputation for excellence is appreciated by undergraduates, who have flocked to the undergraduate majors in substantial numbers in recent years. This is a clear indication of the desirability of the undergraduate degree." The CEP review also pointed out that this wealth of student interest, while gratifying, was in danger of overwhelming the department's ability to sustain excellence in its undergraduate programs and called upon the administration to take immediate steps to lower the high student/faculty ratio. Along these lines, the department has also begun to explore ways to limit entry into its majors. A review of the laboratory courses indicated that more the department should award more units of credit because of the intensity of effort required to succeed in the courses. The department has just received permission from CEP to institute a pre-major screening procedure to reduce its number of majors and is also developing new courses to continue to provide students with broad exposure to contemporary biology.

b.   Chemistry and Biochemistry

Overall Objective of the Department's Majors

The department offers seven major programs[20] and regularly ranks among the top 10 institutions in the U.S. in terms of the number of graduates of American Chemical Society (ACS) certified majors. Fully 92% of the department's graduates are ACS certified, which indicates that they met strict standards of required coursework and laboratory experience. According to the department's most recent 5-year report to the ACS, 38% of its graduates go to graduate school, 31% enter medical/professional school, 28% enter industry, and 3% enter

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[20]   Chemistry, Biochemistry, Environmental Chemistry, Chemical Education, Chemical Physics, Chemistry/Earth Sciences, Pharmacological Chemistry

teaching. In addition to the large number of majors, the department also offers a number of courses that constitute important parts of the coursework undertaken by Biology majors, as well as students of Bioengineering and Chemical Engineering.

Assessing Quality and Effectiveness

Between the periodic reviews by the CEP, the more-frequent monitoring of the undergraduate curriculum by the ACS, and the appointment of an Undergraduate Affairs Committee (consisting of the Vice Chair for Education, one faculty member each from the divisions of biochemistry, inorganic, organic, and physical chemistry, the staff advisor for undergraduates, and an upper-division student), the department has not seen a need to develop additional mechanisms for assuring quality and effectiveness. The Undergraduate Affairs Committee meets quarterly and sponsors a community forum in the Spring where students can air complaints and suggest improvements that the committee often pursues further.

Faculty Teaching Assignments and Teaching Evaluation

The department's Chair, Vice Chair, the department's Council (comprising the division heads, the Chair, and the department's Executive Officer) arrive at teaching assignments through consultation. All divisions participate in the teaching of introductory chemistry courses. The department makes regular use of 5-6 FTE of temporary lecturers to teach lower-division courses and laboratories. The Undergraduate Affairs Committee and the Vice Chair for Education carefully monitor the instruction offered by temporary lecturers. The department monitors the quality of the instruction offered by all faculty through the use of departmental teaching evaluations for every course, the results of which become part of the permanent personnel files.

Selection, Training, Assignment, and Evaluation of Teaching Assistants

The department's Undergraduate Advisor makes TA assignments after wide consultation with graduate students and faculty. All first-time TAs must enroll in a seminar taught by the Vice Chair dealing with methods for teaching chemistry. Also, early in the year a learning skills counselor from the Center for Teaching Development will visit the classroom or lab of each new TA in order provide feedback. New TAs are videotaped, and the Vice Chair views these tapes in small group sessions with the TAs at the end of the quarter. Students also evaluate their TAs at the end of each course or laboratory. In 1995 the department established a Helproom, open six nights a week and staffed by TAs, where students in the general chemistry sequence can go to get personal help from TAs or to study together in groups with TAs readily available. The Helproom has proven to be a very popular resource.

Issues Raised in the Most Recent CEP Program Review and Departmental Responses

The CEP last reviewed the department's undergraduate programs in 1991 and noted that "Overall, the Chemistry Department [since renamed the Chemistry and Biochemistry Department] undergraduate program is very effective in training chemistry majors as well as providing service instruction for students in other majors." The review recommended that the department continue to expand and improve its laboratory courses, which it has done. While the department continues to make significant use of temporary lecturers to teach lower-division courses, it has improved its quality control since 1991. Reviewers also recommended that the department review the distribution of teaching responsibilities among its faculty with an eye to encouraging greater equity, which the department has done by instituting an open, consultative process.

c. *Mathematics*

Overall Objective of the Department's Majors

Mathematics is an integral part of a liberal education and mathematics courses are key elements of the requirements of all five colleges. Two very well-received lower-division general mathematics courses are particularly noteworthy in this regard. *Chance* analyzes mathematics as it bears on current issues such as public opinion polling, streaks in sports, DNA fingerprinting, gambling, stock market behavior, and clinical trials. *Geometry and Imagination* explains patterns, shapes, and relations and applies these relationships and principles to everyday examples. Naturally, the department also offers courses designed for engineering, science, and mathematics majors.

Assessing Quality and Effectiveness

Quality and effectiveness are vital concerns to the department. In 1994 the department initiated a *Calculus Reform Effort* that emphasizes intellectual analysis over the manipulation of formulas. The courses that are a part of this effort are designed to teach students to approach problems using three basic methods: expectations based on intuition, numerical experimentation with graphing calculators, and formal manipulations. The courses also encourage student interaction in small groups and the use of a walk-in Calculus Tutoring Lab. The faculty will evaluate the affects of this program this year. The effort that has gone into the *Calculus Reform Effort* also prompted changes in the entire calculus sequence, which the department developed and implemented in consultation with faculty from other departments whose students depend on the calculus sequence.

Faculty Teaching Assignments and Teaching Evaluation

The permanent faculty are divided into six general areas and submit their course preferences to their area group. Each group matches preferences to program needs and submits the product of this process to the department's Vice Chair who, in consultation with the Department Council, drafts an annual teaching schedule which is then submitted to the Chair who has final authority for making teaching assignments. The department expects every faculty member to teach a significant number of lower-division courses each year. Up to approximately 14% of the department's courses are taught by visiting professors and another 7% or so are taught by advanced graduate students who have either special appointments as Associate Instructors or are part of the Graduate Assistance in Areas of National Need (GAANN) program. The department monitors the quality of instruction through CAPE reviews and questionnaires given to graduating seniors. Graduate student instructors are routinely observed and the department's Vice Chair occasionally visits and evaluates classes. The teaching of regular faculty is specifically and thoroughly reviewed as a part of decisions regarding tenure and promotion.

Selection, Training, Assignment, and Evaluation of Teaching Assistants

The Vice Chair for Graduate Affairs oversees the selection and evaluation of TAs. The department generally assigns TAs to four lower-division or two upper-division sections, preferably with the same instructor. An experienced graduate student serves as a "Master TA" to train and supervise beginning TAs. The Master TA coordinates with the Teacher Training Program of the Office of Graduate Studies and Research (OGSR). Each quarter supervising faculty write evaluations of the performance of their TAs.

Issues Raised in the Most Recent CEP Program Review and Departmental Responses

In its last review of the department in the Spring of 1990, the CEP Undergraduate Review Committee found that "the Mathematics Department does a good job for both its majors and non-majors. It is a large task that

they tackle every year, and they have a reasonable number of faculty committed to excellent teaching." The department has been very active in responding to concerns the committee raised about advising, certain aspects of the curriculum, and the quality of instruction offered by some visitors and TAs.

d. Physics

Overall Objective of the Department's Majors

The Physics B.S. degree prepares students to enter competitive graduate programs, which many have done, or immediately enter the workforce. The department offers B.S. specializations in biophysics, biophysics-premedical, and earth sciences. The two B.A. degrees the department offers are in general physics and general physics/secondary education.

Assessing Quality and Effectiveness

The department has a Vice Chair charged with overseeing academic affairs. The Vice Chair chairs a departmental educational committee that meets quarterly. This committee is named *Physics, Committee for Educational Policy*, and has five faculty members, three undergraduate student representatives, and four graduate students. The Vice Chair also chairs the lower-division course committee and the undergraduate laboratory committee Thus, assessment of the undergraduate program is continuous and improvements are made regularly.

Faculty Teaching Assignments and Teaching Evaluation

The Vice Chair also makes the teaching assignments. For evaluating instruction the department relies primarily upon CAPE reviews and, beginning in 1994-95, a survey of graduating seniors. The department pays careful attention to assigning proven instructors to the largest courses.

Selection, Training, Assignment, and Evaluation of Teaching Assistants

The Vice Chair makes TA assignments as well. Because of the large size of the lower-division service courses and the relatively much smaller size of the upper-division courses, TA support for upper-division courses is in practice very limited. Individual faculty train and supervise the TAs assigned to them in cooperation with the faculty TA advisor. The faculty TA advisor and Vice Chair, in collaboration with two Senior TAs and staff at the Center for Teaching Development train all new TAs. TAs are evaluated by supervising faculty, a Senior TA, and their students. Evaluations play a key role in the making of subsequent assignments.

Issues Raised in the Most Recent CEP Program Review and Departmental Responses

The Academic Senate conducted its last review in 1990, after the department's own CEP had conducted a thorough review and reform of the lower-division preparation for majors. The Senate's CEP concluded that "the academic level of the faculty and the undergraduate program are excellent. This applies to both the major program, and the lower-division courses required by other departments. Positive comments were received from AMES, Biology, and Chemistry .... Our review of the undergraduate offerings in the Physics Department shows a well managed program with high academic standards. The department has a very satisfactory record of self-review and has responded promptly to problems as they have arisen."

3. Social Sciences

a. *Anthropology*

Overall Objective of the Department's Majors

The Anthropology Department offers an undergraduate program that, at the lower-division, helps fulfill the social science or breadth requirements of the colleges and, at the upper-division, provides exceptionally strong grounding in analytical and synthetic thinking and writing. In other words, the Anthropology program at UCSD stands solidly in the tradition of the best of the liberal arts. The upper-division prepares students equally well for graduate school in anthropology, law, other social sciences, or even the humanities as well as for direct entry into the workforce.

Assessing Quality and Effectiveness

The department's informal-yet-attentive approach to monitoring and maintaining quality, complemented by regular outside reviews of the graduate program, CEP reviews of the undergraduate program, and student reviews expressed through the quarterly CAPE process, have served the department and its students extremely well. In the words of the 1996 CEP subcommittee review of the department's undergraduate offerings, "The undergraduate major in Anthropology is one of exceptionally high quality."

Faculty Teaching Assignments and Teaching Evaluation

The making of teaching assignments is collaborative with the Chair exercising final authority. The department takes its teaching responsibilities very seriously. As with the overall quality of the department, the most recent CEP review was very complimentary, saying that "The teaching in the departmental courses has been truly outstanding! Students offered immense praise for these efforts. Moreover, the praise was not just for a few teachers. According to the CAPE reports for 1992-95, there were 14 different faculty members who achieved an approval rating >96%." The department would add only that it has not received this high praise at the cost of relaxed standards.

Selection, Training, Assignment, and Evaluation of Teaching Assistants

The department selects TAs on the basis of demonstrated scholastic ability and advancement toward the Ph.D., past record as a TA, and financial need. The department may also provide TAs for the various writing and language programs, and in college sequences in which members of the department participate. The supervising faculty member is responsible for monitoring performance, and training is available through the Center for Teaching Development. In general, student CAPE reviews of the department's TAs have had the same positive tenor as those of the faculty.

Issues Raised in the Most Recent CEP Program Review and Departmental Responses

The most recent CEP subcommittee review, in 1996, recommended that 1) the department develop strong graduate programs in biological anthropology and archaeology, primarily to address the problem that there is strong student interest in these areas that is currently going unmet, and 2) explore using undergraduate TAs in some upper-division courses. The department demurred on both recommendations, and the full CEP agreed, stating that "the imbalance of faculty to students among fields within the department is not as grave as observed

by the subcommittee..." and therefore "sees no compelling case to request that the department change its course of direction in order to satisfy a perceived undergraduate need."

b.   Cognitive Science

Overall Objective of the Department's Majors

The undergraduate major in Cognitive Science provides students with a highly interdisciplinary perspective on cognition — the study of intelligent behavior. Students undertake extensive coursework in behavior, computation, and the neurosciences to prepare either for graduate school in cognitive science, psychology, neuroscience, computer science, medicine, or for immediate employment in software development, biomedical research, education, human factors/cognitive engineering, training, etc. The department offers both a B.A. and a B.S. program, the option of selecting an area of specialization, an honors program, and various one-unit seminars.

Assessing Quality and Effectiveness

In addition to regular reviews by a subcommittee of the CEP, the department monitors the quality of its offerings by holding twice-yearly meetings with undergraduate majors and through continuous contact with students through the two faculty Undergraduate Advisors and the department's student services staff. Feedback from students has prompted substantial changes in the program over the years, so the department places much confidence in its overall approach.

Faculty Teaching Assignments and Teaching Evaluation

The Chair assigns courses in consultation with the faculty and the student services staff. The target for regular faculty instructional responsibilities is four courses/year, two undergraduate and two graduate. For the last several years, however, regular faculty have been averaging slightly more than five courses/year. The department schedules lower-division prerequisites to ensure that they are available before the courses they feed into. The Chair monitors the effectiveness of teaching through annual individual meetings with faculty to discuss teaching, through review of faculty by graduate students, and through the examination of CAPE reviews. Selection, Training, Assignment, and Evaluation of Teaching Assistants

The department designates one graduate student each year to serve as Senior TA. The Senior TA recommends assignments based on faculty and graduate student requests, special needs of a course or special skills of a graduate student, and prior teaching experience. The Chair makes final appointments. The faculty member in charge of a course is primarily responsible for evaluating TA performance and produces a written report which is given to the appropriate TA and placed in the TAs file. Additionally, the entire faculty discusses TA teaching performance as part of the annual internal review of graduate students.

Issues Raised in the Most Recent CEP Program Review and Departmental Responses

The 1996 subcommittee review found that the "undergraduate program in Cognitive Science at UCSD is in excellent condition." The only significant concern the review expressed was in regard to the increasing obsolescence of the equipment in the behavioral and neuroscience tracks, a concern the department shares.

c.   *Communication*

Overall Objective of the Department's Majors

The Department of Communication provides a broadly-based education in the study of technologies and processes of human communication, ranging from language to digital information technologies. The curriculum is divided into four parts: 1) Communication as a Social Force, 2) Communication and Culture, 3) Communication and Human Information Processing, and 4) Media Production. The department requires students to take a minimum number of courses from each category. The department's curriculum is not designed to provide students with pre-professional training in journalism, advertising, public relations, or broadcasting, but rather with a liberal arts education that equips students with conceptual tools and analytical skills applicable to a wide range of communication-related professions or graduate programs.

Assessing Quality and Effectiveness

Responsibility for evaluating the undergraduate program rests primarily on the department's standing Faculty Committee on Undergraduate Affairs, which reviews the curriculum as needed, bringing issues to the attention of the chair and, often, to meetings of the entire faculty. In recent years the Undergraduate Advisor, who chairs the Committee on Undergraduate Affairs, polls students in the department's required senior seminar courses with an eye toward improving the quality of the curriculum. The periodic reviews by a subcommittee of the CEP also serve as an important mechanism for evaluating quality and effectiveness.

Faculty Teaching Assignments and Teaching Evaluation

The Chair makes teaching assignments, and often takes into account the views of the Undergraduate Affairs committee about the balance of courses offered. The department devotes one faculty meeting each year to discussing the schedule for the following year. The department strives to staff its required introductory courses with senior faculty. The student CAPE evaluations provide important information about faculty classroom performance.

Selection, Training, Assignment, and Evaluation of Teaching Assistants

The Chair and the department's Graduate Advisor make TA assignments, usually drawn from the department's Ph.D. students in or beyond their second year. Many of the department's classes are large, so TAs play an important role in delivery of the curriculum. New TAs normally take a course entitled Professional Preparation for Teaching Assistants with the faculty member whom they are assisting. The department also selects a Master TA each year to serve as a resource. The department solicits student feedback on TA performance through a questionnaire.

Issues Raised in the Most Recent CEP Program Review and Departmental Responses

The last CEP subcommittee review of the department was in 1993 and noted that "the faculty of the Communication Department makes supererogatory efforts to provide a high quality undergraduate major for a very large number of students.... The main strength of the department lies in the quality of its faculty, as evidenced by its steady and distinguished production of scholarship and the receipt of an unusual number of prestigious awards." The subcommittee considered it ironic that "the very success of the department in bringing in majors has created its single most important obstacle in delivering a high quality undergraduate experience: too many students." The department has streamlined the upper-division curriculum somewhat to help move students through the program but has been loathe to arbitrarily limit the number of majors.

d. Economics

Overall Objective of the Department's Majors

The Department of Economics offers two majors, one leading to a B.A. in Economics and a second leading to a B.S. in Management Science. The objective of the Economics major is to provide a broad understanding of resource-allocation and income-determination mechanisms. The Management Science major stresses quantitative methods in the context of decision-making in private and public enterprises. Unlike a majority of undergraduate programs in Economics or Management Science, the core courses for the department's majors include intensive training in micro and macro economics as well as econometric theory and applications.

Assessing Quality and Effectiveness

The Director of Undergraduate Studies in Economics oversees all administrative aspects of the two majors and is the one primarily responsible for reviewing the curriculum and bringing possible changes to the attention of the faculty for discussion and, if merited, approval.

Faculty Teaching Assignments and Teaching Evaluation

Faculty receive teaching assignments annually based upon their preferences and proven effectiveness in teaching a particular course. The department ensures that all required courses are covered before assigning electives. The department Chair and the Undergraduate and Graduate Advisors use the CAPE reviews as an important source of information to evaluate teaching effectiveness. Additionally, faculty known for their teaching excellence are sometimes asked to attend lectures of other faculty, particularly lecturers and visiting professors. The reports of such visits are then included in the evaluation process.

Selection, Training, Assignment, and Evaluation of Teaching Assistants

To be eligible to be a TA, a student must be in good standing in their second through fourth years of graduate study and must maintain a record of satisfactory performance as a TA. Students from abroad must pass an oral English proficiency exam graded by one of the department's faculty and a representative from outside the department. The department offers all eligible students three quarters of TAships each year. If funding is available some fifth-year students may also serve as TAs. Economics TAs do not give lectures. TAs receive written evaluations from students and from the instructors whom they assist.

Issues Raised in the Most Recent CEP Program Review and Departmental Responses

A subcommittee of the CEP last reviewed the Economics Department in 1990 noting that "There is general agreement that the formal aspects of the department's undergraduate programs are in good shape." However, the subcommittee also: 1) noted substantial discontent with very large classes, shared by students and faculty; 2) suggested that the department overly relied upon lecturers; and 3) identified significant student and faculty dissatisfaction with the quality of the department's teaching. The department responded by noting that overcrowding was becoming less severe as measures to limit entry into its majors gradually took hold. With regard to teaching, the department noted its efforts to make grading more stringent, a natural byproduct of which is an increase in student complaints about faculty, and its efforts to take teaching more into account in decisions regarding tenure and promotion. Student demand for more business-related practical courses such as accounting and the department's commitment to remain an economics department rather than transmogrify itself into an undergraduate business program suggested that the use of temporary faculty would continue. However, the

department also noted the very strong and positive working relationship it has developed with the faculty of San Diego State University to offer more practical courses of high quality that are outside the purview of an economics department. As part of the regular cycle of reviews, the CEP will review the department's undergraduate programs during 1998.

e. Ethnic Studies

Overall Objective of the Department's Majors

The Department of Ethnic Studies seeks to offer courses that will enable students to study the social, cultural, and historical forces that have shaped the development of America's diverse ethnic peoples over the last 500 years. The curriculum is designed to study intensively the particular histories of different ethnic and racial groups in the U.S.; to draw larger theoretical lessons from comparisons among these to groups; to articulate general principles that shape racial and ethnic relations both currently and historically; and to explore how ethnic identity is constructed and reconstructed over time both internally and externally. An introductory 3-quarter lower-division sequence is required and upper-division students must take 12 courses in history and social science, language and ethnicity, literature and cultural expressions, and theories and methods and field research.

Assessing Quality and Effectiveness

In addition to continual monitoring of the program by department faculty, the undergraduate program is regularly assessed by a subcommittee of the CEP.

Faculty Teaching Assignments and Teaching Evaluation

Faculty receive teaching assignments annually based upon their preferences and proven effectiveness in teaching a particular course. The department faculty meets to discuss course needs and make recommendations for the following year's schedule of classes. The Chair, in consultation with the faculty and the department's student affairs coordinator reviews the recommended schedule to enable students to progress smoothly through the program. Almost all of the department's faculty receive very high ratings from the quarterly CAPE surveys.

Selection, Training, Assignment, and Evaluation of Teaching Assistants

The department views the training, supervision, development, and evaluation of its TAs as a vital part of its commitment to undergraduate education. The department requires TAs to attend the teacher training workshops sponsored by the Office of Graduate Studies and Research and the Center for Teaching Development at the beginning of every academic year. TAs are regularly observed and evaluated by supervising faculty

Issues Raised in the Most Recent CEP Program Review and Departmental Responses

The CEP reviewed the department's undergraduate program for the first time in 1996 and began its report thus, "The members of the Subcommittee are pleased to report that the Ethnic Studies department maintains an undergraduate program that is of exceptional quality." The review noted that some of the faculty involved in teaching the lower-division introductory course — a course that by its nature can provoke vigorous discussion and strong disagreements — had received poor reviews despite several attempts at teaching the course and recommended that the department consider assigning to the course only regular faculty of proven effectiveness in large lectures. Given the increasing popularity of the department's courses at both the lower and upper-

division, the reviewers also recommended that the administration continue its generous support of the department in terms of the allocation of faculty FTE.

f. Linguistics

Overall Objective of the Department's Majors

The goal of the Department of Linguistics is to prepare its students well for graduate study in linguistics, as well as language related careers such as language teaching, translation, publishing, and computational language processing. A degree in linguistics from UCSD is also good preparation for law school. In addition to the general linguistics major the department offers three specialized majors: Linguistics with a Concentration in a Particular Language, Language and the Mind, and Language and Society.

Assessing Quality and Effectiveness

A faculty Curriculum Committee oversees the department's programs. Over the last few years the committee has moved to eliminate one of the specialized majors (English as a Second Language) and stressing the importance of adding advanced courses in core areas. The department also took steps in the mid-1990s to purge the catalog of courses that had not been regularly offered. The department also relies upon the CEP for regular assessment of its undergraduate programs.

Faculty Teaching Assignments and Teaching Evaluation

The chair makes teaching assignments in consultation with the faculty.

Selection, Training, Assignment, and Evaluation of Teaching Assistants

TAs are selected on the basis of standing in the graduate program and the match between the TAs interest and expertise and the needs of a particular course. TAs receive supervision from a course's principal instructor, conferring on a regular basis with regard to course content, homework, and other matters. The principal instructor prepares a written evaluation of a TAs performance for inclusion in the graduate's file. In courses where CAPE reviews may not be available the department distributes its own comment and evaluation form.

Issues Raised in the Most Recent CEP Program Review and Departmental Responses

The last CEP subcommittee review of the Department of Linguistics took place in 1990. Referring to the previous review in 1980, the 1990 review committee stated that, "We think there is convincing evidence that substantial improvements have been made by the department in relating its discipline to the wider interests and distinctive needs of undergraduates." In addition to substantial reform of the curriculum the department had also greatly strengthened its undergraduate advising. Another subcommittee review is currently in process and should be completed sometime in 1998.

g. Political Science

Overall Objective of the Department's Majors

The Department of Political Science offers a program that systematically addresses some of the fundamental problems facing society and, in doing so, to raise broad theoretical questions that can help students relate the

political debates of today to those that have kept this scholarly tradition alive for over 2,000 years. As a result of declining enrollments and insightful consultation with the CEP, the department revamped its program during the mid 1990s and, beginning in the fall of 1998, will offer students the opportunity to concentrate in one of six areas within the major (American politics, comparative politics, political theory, international relations, public policy, and public law). Strong student and faculty support of the prospective concentrations suggests that the reforms may indeed help stabilize enrollments.

Assessing Quality and Effectiveness

Over the last several years the department has been involved in confronting a steady and significant decline in enrollments. Although the department's experience has accorded with a well-documented national trend in political science enrollments and is to some degree the result of forces beyond its immediate control, the faculty has nonetheless worked to revise and reform its program to encourage student interest. For instance, prerequisites for many upper-division courses have been removed or lightened, and the department completely reformed the lower-division curriculum. As mentioned above, beginning in Fall 1998, students will also have the opportunity to concentrate in one of six areas. In addition to the involvement of its faculty in efforts such as these, the department also uses the regular CEP reviews as occasions for reflection, discussion, and reform.

Faculty Teaching Assignments and Teaching Evaluation

The chair has the ultimate authority for making teaching assignments and takes faculty preferences into account as much as possible. The faculty has made a formal commitment that every member have as a first priority the teaching of one large undergraduate course each year. The faculty member assigned as Director of the undergraduate program monitors CAPE reports and other comments from undergraduates regarding faculty classroom performance and feeds this information into the process of making teaching assignments.

Selection, Training, Assignment, and Evaluation of Teaching Assistants

TAs are selected on the basis of standing in their program and the match between their skills and interests and the needs of the department. Faculty supervise their TAs and students have the opportunity to provide their evaluations through the CAPE process.

Issues Raised in the Most Recent CEP Program Review and Departmental Responses

The last review of the Political Science department took place in 1991 in the midst of a dramatically different situation than what the department faces today. To wit, the CEP subcommittee reported, "Our main conclusion is that the Department of Political Science offers an effective undergraduate program. The issue now facing the Department is the need to maintain the quality of that program in a situation characterized by rising enrollments and, in the short run, limited resources." However, contrary to the CEP's — and the department's — expectations, during the early 1990s enrollments and resources *both* declined. As mentioned earlier in this abstract, the department responded to the decline in enrollments by initiating and implementing a thorough review and reform of its program, the quality of which was very high to begin with. The consequences of these reforms have yet to be played out, but the early signs are hopeful.

h. Psychology

Overall Objective of the Department's Majors

The Department of Psychology seeks to prepare its majors either for graduate or professional careers by exposure to nine areas: behavior analysis, biopsychology, clinical psychology, cognitive psychology and cognitive neuropsychology, developmental psychology, psychopathology, quantitative methods, sensation and perception, and social psychology. The department emphasizes experimental methods and procedures and statistical analysis and strongly encourages students to participate in its honors program and in independent research. The department is currently seeking approval to offer a B.S. degree in addition to the B.A.

Assessing Quality and Effectiveness

In addition to continual monitoring by the faculty the department is also reviewed on a regular basis by a subcommittee of the CEP.

Faculty Teaching Assignments and Teaching Evaluation

The department chair makes teaching assignments in consultation with faculty. The department requires its faculty to teach four courses per year, one large undergraduate course and either two smaller undergraduate and one graduate course, or two graduate courses and one smaller undergraduate course. The department makes use of adjunct faculty and lecturers to fill gaps in the programs, especially in clinical psychology which remains a strong interest of students but is not central to the interests of the department's regular faculty. The chair takes CAPE evaluations into account in making assignments, and also places great weight on the opinions and judgments of other faculty, the department's undergraduate program representative, and graduate students. In general, students have given high marks in their CAPE reviews to department faculty.

Selection, Training, Assignment, and Evaluation of Teaching Assistants

Graduate students serve as TAs for 1-2 courses each year. TAs are expected to meet regularly with supervising faculty and to attend all course lectures. In addition to the gamut of responsibilities one associates with being a TA, the department also gives TAs an opportunity to give at least one lecture per year. The department TAs also participate in the training provided by the Center for Teaching Development. CAPE reviews of TAs play an important role in evaluation, as do the observations of the supervising faculty.

Issues Raised in the Most Recent CEP Program Review and Departmental Responses

The most recent CEP subcommittee review occurred in 1996 and found that, "The Department of Psychology has a well-deserved international reputation for eminence, particularly in the field of experimental psychology. However, the department does not have a tradition of strong commitment to excellence in undergraduate education." As one would expect, such an opinion prompted a strong response from the faculty, especially because the subcommittee had acknowledged in its report not only the very high regard students express for the undergraduate instruction the department's faculty offer, even in the face of large class sizes, but also the department's "intractable problem" of there being "something of a mismatch between the direction of undergraduate interests and the specialization of the faculty" in that "undergraduates tend to have a strong interest in clinical psychology which the department cannot fully accommodate." The subcommittee review also called attention to a relative lack of structure to the major and reports from students about chronic scheduling conflicts and gaps. The department has responded that the very broad range of student goals and interests accords well with the approach it has taken to the curriculum and that the demands of the faculty's various

research programs, which the CEP also acknowledged as being of extremely high quality, do affect course scheduling. The CEP and department are continuing to work on developing a common perception of the situation and to reach agreement on how best to deal with problems.

I. Sociology

Overall Objective of the Department's Majors

The primary goal of the Department of Sociology is to instill in students a critical awareness and understanding of the social aspects and social foundations of human life and experience. Additionally, the department seeks to broaden student horizons beyond the borders of the United States to embrace an increasingly complex and interconnected world. The department seeks to prepare students for further study in the field or to pursue careers in a broad array of fields, from public administration to education, from social welfare to public health, from criminal justice to urban planning, from international relations to law.

Assessing Quality and Effectiveness

Three bodies help monitor and assess the quality of the department's undergraduate program. The CEP, which provides an invaluable perspective from outside the department, and two committees within the department, the Undergraduate Committee, chaired by the Undergraduate Advisor (a tenured faculty member), and the Teaching and Curriculum Committee. The Undergraduate Committee has the authority to decide minor policy issues while major issues, such as changes to departmental requirements, go before the full faculty. Whereas the CEP conducts external reviews of the undergraduate program approximately every seven years, the two departmental committees operate continuously to evaluate the program and recommend modifications.

Faculty Teaching Assignments and Teaching Evaluation

The department recently established the Teaching and Curriculum Committee partly in response to the considerable growth of the faculty over the last seven years and the resulting need to reorganize the department's approach to curriculum planning and other programmatic issues and to develop more consistent policies on teaching assignments and evaluation. The creation of the committee has made chairing the department less burdensome and also now directly involves more faculty in the administration of the undergraduate program. The committee makes recommendations for course assignments and scheduling in consultation with the department's faculty.

Teaching effectiveness is a common topic of discussion in the department. The department views CAPE reviews as the least reliable method of assessing instructor performance and therefore supplements the student evaluations with regular reviews of syllabi, reviewing proposals for new courses, and closely tracking changes in enrollments. The Undergraduate Advisor and Undergraduate Coordinator (a staff person) also monitor student commentary and criticism through a variety of informal channels.

Selection, Training, Assignment, and Evaluation of Teaching Assistants

The department's Graduate Committee accepts applications from graduate students for TAships in the spring for the following academic year and takes into account performance in the graduate program as well as perceived teaching ability (if a student has been a TA before the committee examines written reviews, if not, the committee solicits the impressions and predictions of professors with whom he or she has taken seminars). New TAs are required to attend the workshops run by the Center for Teaching Development. In addition to the workshops and the oversight of principal faculty, the department also relies upon a faculty TA Advisor to

coordinate additional training activities and disseminate pedagogical information and a Head TA, chosen for her or his extensive and well-regarded TA experience, to observe one section meeting for each TA and provide feedback. The Head TA also organizes quarterly meetings of TAs to share experiences and advice.

Issues Raised in the Most Recent CEP Program Review and Departmental Responses

The CEP last reviewed the department's undergraduate program in 1996. The department found the report of the subcommittee "thoughtful and thorough," was "especially gratified by the report's endorsement of" the department's "general requirements...balance of courses, and of the quality of staff work" and was also "pleased to find that a number of the report's concerns" paralleled those of the department. In response to the external subcommittee report, and to its own internal reviews, the department reexamined its quantitative requirement, decided to provide TAs for one of its core upper-division courses, and to expand the department's writing requirement. Because of a mismatch between student interest and faculty specialties, the department had developed over time an increasing reliance upon temporary instructors to teach some popular courses. In its recruitments over the last several years the department has sought — successfully in the eyes of the CEP subcommittee — to broaden the range of its faculty without allowing students interests to dictate the direction of the department.

4. Humanities and Fine Arts

a. *History*

Overall Objective of the Department's Majors

The Department of History seeks to provide students with an excellent liberal arts major: to improve his or her understanding of the world, ability to read critically and write well, and to think through complex current issues by relating them to the human past. Department graduates have found the training they received to be excellent preparation for careers in law, communications, and business. The basic major combines the study of one regional history (United States, Europe, East Asia, Latin America, etc.) with a range of courses in the histories of other areas.

Assessing Quality and Effectiveness

The Vice-Chair of the department also serves as head of the Undergraduate Policy Committee and considers all issues pertaining to the major and minor, from the crisis of class size to the problems of finding suitable readers. This committee reviews any basic change in the curriculum and the tenured faculty of the department then vote on its recommendations. From the outside, the department relies primarily upon the reviews periodically conducted by the CEP.

Faculty Teaching Assignments and Teaching Evaluation

The department makes teaching assignments through two channels. The Chair takes initiative to ensure that the department staffs lower-division courses that primarily serve the general education programs of the undergraduate colleges. Within the department, the various field groups negotiate among themselves and the Chair usually accepts their recommendations. The department has found the CAPE reviews generally helpful and insightful in assessing classroom performance but does not rely upon them exclusively. It supplements student reviews with evaluation of syllabi and, on occasion, classroom observation.

Selection, Training, Assignment, and Evaluation of Teaching Assistants

Within the department the various field groups select and assign TAs, but in practice, these decisions are sometimes preempted by students obtaining TAships in the general education programs of the colleges. The department charges the principal instructor of a course with complete responsibility for supervising his or her TAs.

Issues Raised in the Most Recent CEP Program Review and Departmental Responses

The 1991 CEP subcommittee review of the department noted the department's longstanding reputation for strong teaching, even in the large lower-division service courses for the colleges. The report also indicated that the department had largely remedied concerns that earlier reviewers had expressed about advising, confusing catalog copy, and "atomization" of the major. As of this writing another CEP subcommittee has completed its report, which is now awaiting a response from the department Chair before it goes to the full CEP for review and discussion.

b.   Literature

Overall Objective of the Department's Majors

The Department of Literature offers students the opportunity to pursue the study of literature as a way to acquaint themselves with ideas, language, culture, and society. Because words are the heart of literature, the major stresses developing the ability to read critically and write fluently. The skills that literature majors have developed have done them in good stead in a number of careers, including education, law, technical writing, communications, journalism, advertising, public relations, business, government, and international affairs. The major will also prepare students for graduate study and academic careers in literature and the humanities. The department offers nine majors: Literatures in English, French, German, Italian, Russian, Spanish; Literature/Writing; Literatures of the World (a revised and renamed General Literature major); and a dual major in two literatures. The department also has a Pre-Literature/Writing programs to allow interested students to discover what the major program entails. This comprehensive departmental structure is unique and the department is proud of its uniqueness, although the unusual structure deprives it of obvious benchmarks at other institutions.

Assessing Quality and Effectiveness

Within the department, faculty are affiliated with one or more of its four sections or academic groups: Comparative; Cultural Studies/Critical Theory; Literatures in English, French, German, Italian, Russian, and Spanish; and Literature/Writing. The head of each section, plus the two faculty Directors (1 for undergraduate studies and a second for graduate studies), compose the Curriculum Committee, which meets regularly each quarter to review the goals and needs of each area. The staff Program Representative is also the curriculum coordinator and confers frequently with section heads, the Management Services Officer (MSO), and the department Chair to organize future course offerings. All proposals for revising the undergraduate program go to the department's Executive Committee for review before being presented to the department as a whole.

Faculty Teaching Assignments and Teaching Evaluation

Section heads coordinate the teaching assignments within their sections. The department monitors teaching effectiveness by paying close attention to enrollment trends, the use of in-house student evaluations, periodic questionnaires distributed to all majors, and the student-run CAPE reports. The department strives to assign instructors of proven effectiveness to the large lower-division courses.

Selection, Training, Assignment, and Evaluation of Teaching Assistants

The department polls its graduate students with regard to their preferences for TAships and then collaborates with faculty to ensure the best match between interest, skills, and department needs. There is specially-funded TA training before classes begin in the fall, with separate training for TAs who will be teaching in the Literature/Writing lower-division sequence and for TAs within the language/literature sequences. Principal faculty are responsible for supervising and evaluating their TAs and the department also makes use of the TA reviews embedded in the CAPE evaluations.

Issues Raised in the Most Recent CEP Program Review and Departmental Responses

The last CEP subcommittee review of the department's undergraduate program took place in 1991. The reviewers stated that "we are satisfied that the quality of the teaching by the faculty is in general very high. A remarkable proportion of the faculty regularly achieve at lest 90% approval ratings in CAPE reports. Students praise the faculty with few exceptions for their erudition, enthusiasm, and overall commitment to the study of literature. In general, students also believe that faculty are sufficiently accessible." The report wondered about the ability of the department to successfully maintain its singular nature in the face of enrollment growth but nonetheless acknowledged the department's success with its comprehensive structure and recognized the faculty's continuing commitment to it.

c. *Music*

Overall Objective of the Department's Majors

The Department of Music emphasizes the preparation of students to become practicing musicians or music scholars. The department offers four areas of concentration within the major: Performance, Composition, Technology, and Music Literature. In addition, the department offers a Music/Humanities major as a more scholarly, humanities-oriented option. The department requires basic musical mastery in each area, including ear training, sightsinging, and fundamental music theory. Students typically spend at least two years mastering these skills, consequently it sometimes takes majors 5 years to complete their studies.

Assessing Quality and Effectiveness

Internally, the Undergraduate Committee, in consultation with the full faculty and the department's Chair, oversees the undergraduate curriculum. The department also benefits from regular external reviews by subcommittees of the CEP.

Faculty Teaching Assignments and Teaching Evaluation

Each year faculty are asked what courses they prefer to teach and the department complies with these preferences to the best of its ability. The department monitors the effectiveness of its regular and temporary faculty by departmental student evaluations, CAPE reports, student letters, direct observation, and consultation with the department Chair.

Selection, Training, Assignment, and Evaluation of Teaching Assistants

The department appoints TAs based on their academic record, faculty ranking, and teaching abilities. New TAs receive instruction and supervision from the department's Faculty TA Advisor and from a Senior TA. New

TAs must also attend the workshops offered by the Center for Teaching Development (CTD). Some international graduate students receive additional help from CTD in English as a Second Language and in laboratory instruction. At the end of each quarter TAs receive written evaluations by the course instructor and by the students enrolled in their sections. These evaluations are in addition to the student-sponsored CAPE evaluations. The department also expects course instructors to provide feedback throughout the quarter.

Issues Raised in the Most Recent CEP Program Review and Departmental Responses

A subcommittee of the CEP conducted its most recent review of the undergraduate program in 1993, and observed that, "The Department of Music brings great distinction to UCSD. Unlike many music departments at universities in North America, it is renowned world-wide for its composers and performers, and places little emphasis on musicology. The UCSD music faculty create an exciting atmosphere for music-making, enriching the cultural life of the campus by producing many concerts and recitals, with the majority devoted to contemporary music." The report noted with approval the department's increased contributions to undergraduate education outside of the major. Students raised concerns about the limited musicology the department offers as well as with the burdens associated with developing musical mastery "against a background" according to reviewers "of considerable good will towards the department." In the end, given the necessarily personal and intense nature of musical education, the reviewers suggested that the administration consider "modifying the procedures for allocating faculty positions" to allow the faculty to grow without needing to add more majors.

d. Philosophy

Overall Objective of the Department's Majors

The department has designed its undergraduate program in philosophy to meet a number of student needs. In addition to the large service component of the program, the department seeks to provide the small number of students who aspire to graduate education an excellent foundation on which to build. The department offers many courses in the philosophy of science (including mathematics, physics, biology, and psychology) designed to hone a critical appreciation of scientific reasoning and evidence. A number of general and specialized courses in ethics are also taught, including medical and environmental ethics.

Assessing Quality and Effectiveness

In 1996 the department carried out a complete review of its undergraduate curriculum, including changing the undergraduate major requirements and the system for numbering courses, with an eye towards making the program both more current and more coherent.

Faculty Teaching Assignments and Teaching Evaluation

In a departure from the previous practice of simply assigning teaching according to faculty preference the department experimented in 1997 with having faculty gather by sub-discipline to plan course offerings for the next two years. This effort proved difficult, but the department believes the process produced worthwhile results and plans to repeat and refine it. The department evaluates the teaching effectiveness of its faculty in three different ways: CAPE reviews, departmental questionnaires, and, when major promotions are at issue, peer evaluation.

Selection, Training, Assignment, and Evaluation of Teaching Assistants

Graduate students are selected by faculty as TAs and also help staff some of the lower-division courses that help satisfy the college general education requirements. Faculty are responsible for supervising and evaluating TAs and the CAPE reviews of TAs also help assess performance.

Issues Raised in the Most Recent CEP Program Review and Departmental Responses

The CEP subcommittee report of Philosophy completed in 1993 concluded that "The bottom line of this review is that the Philosophy undergraduate program is one of the more successful on the UCSD campus; the Philosophy faculty should be applauded for their efforts." The reviewers worried that the rise of new departments such as Cognitive Science might exacerbate a decrease of interest in philosophy as a major and that the department's shift away from the more traditional "humanities" approach to philosophy to one aligned more closely with the sciences might further accelerate the trend of reduced interest. However, the reviewers admitted that such "impressionistic" caveats provide no basis for making substantive recommendations to the department. The report concluded by suggesting that the department consider formalizing procedures for evaluating the curriculum, perhaps in the form of a standing committee.

e. *Theatre*

Overall Objective of the Department's Majors

The Department of Theatre has designed its program to provide students with broad liberal arts training in the discipline. Students who purse the major gain a strong foundation in theater history and dramatic literature as well as a well-rounded understanding of the aesthetics and techniques of the principal creative components: acting, playwriting, directing, design, and stage management.

Assessing Quality and Effectiveness

The exceptional strength and success of the department's MFA program has been a source of some discontent for the undergraduate majors, many of who would like to pursue a career in acting. Accordingly, a departmental *ad hoc* faculty committee assessed the entire undergraduate curriculum during the fall of 1996 and the rest of the faculty discussed the committee's report at length at the end of that quarter. In the end, after thorough examination and discussion, the department has chosen to reaffirm its commitment to the liberal arts rather than change the undergraduate curriculum into a pre-professional training program. In addition to such processes, the department's Undergraduate Advisor (a tenured faculty member) meets regularly with students to solicit their views. Moreover, the Undergraduate Advisor moderates a meeting between undergraduate students and faculty each quarter.

Faculty Teaching Assignments and Teaching Evaluation

The department Chair makes all teaching assignments. The general principle the Chair follows is that all ladder-rank faculty must teach regularly in the undergraduate program. Students evaluate faculty performance in all classes and the department has developed appropriate assessment forms for each of the kinds of classes it offers. Additionally, most of the department's courses benefit from CAPE reviews. Apart from such formal arrangements it is commonplace in the department for faculty to team teach and/or visit each other's courses as guests or invited observers. The faculty discuss teaching evaluations in detail during all merit and promotion evaluations.

Selection, Training, Assignment, and Evaluation of Teaching Assistants

The Chair of the department makes all TA assignments in consultation with the MFA program area heads (acting, design, playwriting, etc.), the department's Management Services Officer, and its Graduate Coordinator. The department requires all first-time TAs to attend workshops offered by the Center for Teaching Development and requires supervising faculty to visit sections and provide written evaluations of TA performance. The department also pays some attention to CAPE reviews of TAs.

Issues Raised in the Most Recent CEP Program Review and Departmental Responses

The last CEP subcommittee review of the undergraduate program was completed in 1991 and concluded that "There are a number of truly excellent professionals on the faculty, and we found no reason to question the quality of their commitment to the theater and to the training of young professionals. Some members of the department give generously of their time and energy to undergraduates who demand their help. But there can be no doubt that the department as a whole is disappointing to undergraduates, and — as noted earlier — many of the faculty feel that the students' discontent is quite justified." The report made clear that it was not advocating a diminution of the department's commitment to the outstanding graduate program, but an expansion of its commitment to undergraduates. The department, in turn, is acutely aware that the State of California simply does not have the resources available to allow the department to mount an undergraduate program that is comparable to its graduate program in focus and quality. The revising of the curriculum to emphasize yet again in the face of strong student desire to the contrary the liberal arts character of the undergraduate program has provided some help, but, in lieu of extraordinary resources, the mismatch between student aspirations and departmental focus and resources appears intractable.

f. Visual Arts

Overall Objective of the Department's Majors

The Visual Arts Department offers three majors. The major in Art History/Criticism is for students who desire a broad education in the humanities as well as students who plan to pursue graduate work in art history. Studio Art focuses on developing the intellectual and technical skills for producing studio art. The Media major is for students who want to become creative video makers, filmmakers, photographers, and computer artists.

Assessing Quality and Effectiveness

The department's Undergraduate Advisor and its faculty constantly monitor the quality and relevance of its programs. As a consequence of extensive collaboration the department just completed revisions of the Art History/Criticism and Media curricula and plans to put into effect a revised Studio Art curriculum in 1998.

Faculty Teaching Assignments and Teaching Evaluation

The department Chair makes teaching assignments in light of faculty preferences, the needs of the students to progress in a timely way through the department's programs, and CAPE reviews. The classroom performance of temporary faculty is carefully monitored.

Selection, Training, Assignment, and Evaluation of Teaching Assistants

The assignment of TAs is a collaborative process that takes into account specific faculty and graduate student requests. TAs are supervised by the faculty member responsible for a particular course. Part of this supervision is at least one visit per quarter to observe TA performance in the classroom. Visual Arts TAs also participate in the extensive workshops offered by the campus's Center for Teaching Development (CTD). The department also employs two Senior TAs, usually 3rd year students with exemplary teaching records. TAs receive written evaluations from their supervising faculty and CTD staff, and their students also fill out a departmental questionnaire regarding their teaching.

Issues Raised in the Most Recent CEP Program Review and Departmental Responses

The most recent CEP review of the Visual Arts department began with the statement that "it should be congratulated for its excellence in undergraduate education." Apart from noting problems associated with extremely limited studio space — since ameliorated by the opening of a new Visual Arts facility — the only substantive suggestion that the subcommittee made was that the *campus* should "examine seriously whether the present support of the department reflects its excellence, programmatic needs, popularity with students and substantial growth..."

C. Conclusion

The picture of undergraduate education at UCSD that develops out of the process of self-reflection indicates that, on the whole, UCSD faculty are not so caught up in their research, whether that be in the lab, library, supercomputer center, or in the field that they neglect their instructional responsibilities. It appears also that the process of CEP review is not merely a rubber stamp for departmental efforts, or lack of them, but involves thoughtful criticisms and responses and frequently prompts significant departmental reforms. It is clear that, apart from the frequently mentioned student-run CAPE reviews, much of the assessment effort reported in section **II. Assessment of Undergraduate Outcomes and Campus Climate**, is not very well-integrated either into the CEP external review process or internal departmental review processes. Whether this lack of integration constitutes a *major* problem or not has yet to be settled.

V. TRANSFER STUDENTS

Introduction

The following document is the report of a task force, created as part of UCSD's 1997-98 accreditation self study. The transfer function is an integral part of the University of California Master Plan, but at UCSD there have been only occasional attempts to measure the effectiveness of the process and the satisfaction level of the students involved. Sufficient anecdotal evidence from faculty, students, and staff exist to suggest that there is disagreement about the quality and success of transfer students and the nature of their experience at UCSD. In recent years about a third of those students who have received bachelor degrees from UCSD entered as transfer students, with typically more than 85% of those students admitted from California community colleges. A focus on transfer issues is particularly appropriate at this time, given the fact that undergraduate demand is projected during the next decade to exceed the enrollment capacity of the UC system, and the fiscal constraints facing higher education. This report is divided into five sections:

Section A reviews the University's obligation to enroll students from community colleges as required by the Master Plan. It reviews UCSD's record in this area and raises concerns about how well the process is working.

Section B covers primarily a student survey, "The Transfer Experience" commissioned by the task force. Relevant portions of the "Quality of Campus Life" survey are also discussed.

Section C covers a single topic, "Should UCSD Admit Transfer Students by Major?" in an attempt to collect data and arguments for and against such a decision. This section would, of course, be presented to the appropriate regulatory body, the UCSD Academic Senate's Committee on Admissions.

Section D introduces a related issue, namely the relationship of UCSD's unique college system to the transfer function. In particular, arguments for and against the suggestion that a college be specifically designed for transfer students are presented.

Section E summarizes the report and its conclusions and recommendations.

A.   Obligations and Responsibilities

One of the major objectives of the California Master Plan for Higher Education, adopted in 1960, was to insure coordination between the three segments of public higher education (UC, the state colleges, now California State University, and junior colleges, now community colleges). The transfer function was designed to expand both capacity and access to higher education, with the community colleges called upon as one of their many functions, to offer lower division work that would allow a student to easily and successfully transfer to one of the other two segments. It was envisaged that this process would allow both a less expensive alternative for those eligible to UC (or CSU) from high school, and a "second chance" for those ineligible from high school. In reality, over 80% of those coming to UC from the community colleges have been in the second category, originally ineligible. Thus the transfer function serves as an egalitarian element of a public education system which has arguably produced one of the outstanding "elite" public education alternatives.

At UCSD, transfer students have been admitted from its inception. Application for admission as transfer students has increased slowly, with the number admitted and enrolled relatively steady (Table V.A).

Table V.A
Fall Quarter Transfer Students

	1997	1995	1994	1993
Applications:	4,419	4,176	4,103	4,023
Admitted:	2,525	2,783	2,664	2,433
Enrolled·	965	1,018	959	899

Most transfer students enroll for fall quarter. UCSD initially accepted all *eligible* applicants, those who were either originally eligible from high school and presented at least a 2.0 GPA, or those initially ineligible who had made up course deficiencies and had achieved a 2.4 GPA in transferrable courses. In 1990, analysis conducted on the academic records of transfer students showed that most experienced a drop in GPA, a finding that led to the decision to require a 2.8 GPA of most applicants, a benchmark that remains in force. UCSD, unlike UCB and UCLA, does not admit transfer applicants by major.

Judged by overall graduation rates, transfer students appear to be successful at UCSD. The most recent data show that 76% of those who enrolled as transfer students in 1991 have graduated. Time to degree varies, with less than a third (30%) graduating within two years, but most (75%) within three. Time-to-degree has improved steadily in the 1990's with median number of quarters at UCSD having gone from 11 to nine since 1990. Most recent graduates who entered from community colleges achieved a UC GPA of 3.03 compared to 3.17 for those who entered as freshmen. Both time-to-degree and GPA are a function of major field of study.

With such data and extensive though conflicting anecdotal evidence, the task force set out to try to answer the following questions:

- Is UCSD meeting its obligation to the transfer process?

- How effectively are transfer students advised prior to enrolling at UCSD?

- How do transfer students feel about their experiences, both academic and social, at UCSD?

- Are there special impediments to timely graduation for transfer students?

- How can we facilitate the transfer process without sacrificing UCSD's unique college-general education system? How well are various mechanisms for admitting transfer students working?

- Specifically:

  - Should UCSD admit transfer students by major?

  - Should Sixth College be designed specifically for transfer students?

B. The Transfer Experience

Two major student surveys carried out in Spring 1997 helped form a sense of the experience of transfer students, at UCSD and prior to their enrollment. The first, *The Transfer Experience: A Student Survey* was carried

out specifically for the task force. The second, *The Quality of Campus Life* surveyed all students but contained a section, "Entry Level Comparison" that allows comparison of those admitted as first-time freshmen with transfer students. Both studies, carried out by the UCSD Student Affairs Office of Student Research and Information, are available upon request. Only those aspects of specific interest to this task force are discussed in this purposely brief Self Study. In addition, the task force hosted a lightly attended but very informative open forum where transfer students shared their overall experience at UCSD. In addition, task force members attended academic and social events for transfer students and solicited input and concerns, many of which paralleled those submitted in response to the *Transfer Experience* questionnaire.

The Transfer Experience Questionnaire was mailed to 2,300 transfer students, all of those enrolled Spring 1997 except the randomly selected group of students who had already received the Quality of Life questionnaire. Overlap of questions supported the validity of this method. A total of 759 students returned a complete survey questionnaire for a total response rate of 33%. The gender, college, discipline, and race/ethnicity breakdowns showed the respondent pool to be representative of the total transfer student population. Ninety-four percent of all respondents had entered from a community college, with 62% having attended only one previous post secondary institution, 26% two, and 12% three or more. Although their ultimate educational objectives are generally similar to those reported by first-time freshmen (Bachelors 22%, Masters 27%, Ph.D./Professional 39% and unknown 13%) a smaller proportion of transfer students aspire to academic or professional doctorates. Over a quarter reported having changed majors while at UCSD. Of first interest to this task force were the overall attitude toward UCSD:

Table V.B
1997 Transfer Student Experiences

	Very Positive/ Positive	Neutral	Very Negative/ Negative
General attitude toward UCSD	78%	14%	8%
General attitude toward your college	68%	26%	6%
From the Quality of Life Survey, Overall attitude toward UCSD			
Transfer Students:	67%	18%	15%
First Time Freshman:	73%	18%	9%

We were pleased (and somewhat surprised) to find that transfer students seemed overall about as satisfied with UCSD as those who entered as freshmen.

Transfer students seemed well satisfied with advising in their college though slightly less so with that from their departments. Only 59% agreed or strongly agreed that they felt welcome at UCSD and other questions suggest that they found other students not as friendly as expected. As one might expect, since transfer students do not live at their college nor often interact with it, there was not a strong sense of belonging to the college, or involvement with its activities. Comments from the forum reinforced the general feeling that transfer students feel academically satisfied at UCSD but are disappointed in the social environment. (Only 40% reported that UCSD had met their social expectations better than, or as expected). This divergence was also noted among respondents who had been admitted as freshmen.

The task force was particularly interested in factors contributing to students' selection of UCSD and the value of that information. California has 107 community colleges, though most UCSD students come from a much smaller group. The major contributing factors in selecting UCSD were all academic in nature, followed by location, cost, financial aid, and then advice from students, parents, friends, or counselors. Only 37% listed an academic

advisor at a previous institution as a factor contributing to the choice of UCSD. When listing the source and value of transfer information we were surprised to learn that the campus catalog was the most used and most valuable, though counselors, friends, and brochures were also of use. Recruiters and faculty members played a small role and the Internet was used by only 19% of those surveyed.

Confirming faculty fears that transfer students are not as well prepared as we might wish was the fact that 15% reported being poorly or very poorly prepared, 34% adequately so, while only half felt they were well or very well prepared. Just over a third felt they had not taken the appropriate courses to prepare for their *major*. This point supports the view of many that transfer advising focuses too much on general education and not enough on major prerequisites. This point is returned to in Section C.

From comments on the survey and at the forum, one gets a picture of the heterogeneous nature of this population. While the average age of entering transfer students is 23 , there is a wide range of ages, backgrounds, and expectations. Transfer students tend to come largely from the local area, are more likely to work and be self supporting, and have different social expectations from those who enroll as freshmen. Given this difference it is somewhat surprising that expectations and perceptions are quite similar. With so few transfer students (less than 20%) living on campus, it is not surprising that their involvement with a campus that does not have highly visible social activities (e.g. football) is small. Student Affairs personnel in the university and the colleges face a difficult task in providing suitable activities to create a better university/college identification.

C.   "Should UCSD Admit Transfer Students by Major?"

From its inception UCSD has not used choice of major or choice of college as a factor in admissions. In this regard, the campus differs from the two schools which are our biggest competitors, UC Berkeley and UCLA. Over ten years ago the number of UCSD students interested in computer science and engineering forced that division, with Committee on Education approval, to institute a pre-major. Freshman admits are divided into two groups with those (Group A) presenting higher GPA and test scores, approximately 60%, admitted directly to the major, whereas the remaining 40% (Group B) are admitted as "pre-majors" and required to achieve certain GPAs in selected screening courses. Students admitted as freshmen have six quarters to complete the screening process, and be admitted to the major. Transfer students are all admitted as pre majors with three quarters to complete screening and be accepted into the major. All students from both groups must complete the same prerequisites. Since San Diego is the only campus to admit computer science/engineering applicants in this manner, some feel we attract weaker students. Only about half of those admitted as transfer student pre-majors pass screening and are admitted to the major of first choice. The transfer students who do not earn admission into their preferred major either find an alternative field or withdraw from UCSD.

In 1997 the biology department proposed a similar screening procedure for its majors, by far the largest on campus. This proposal has just been approved and will affect a large number of students. The university will implement the new policy in fall, 1998, for freshmen and for transfers in the fall of 2000. The impact on transfer students will be significant.

Screening courses, which vary by major, are all lower division and available at most community colleges. A transfer student who has not completed the required courses may do so at UCSD, but many feel satisfactory completion of the screening courses should be accomplished prior to transfer. It is also felt that the GPA in this sub set of courses should also be calculated and admission to UCSD offered only if the required level has been obtained (currently 3.0 in computer science, lower and variable in other engineering majors and proposed as 2.75 for biology majors).

This task force recommends that the Admissions Committee clarify this point as soon as possible. It seems indefensible to admit to UCSD a student who wants a specific major and who has completed the screening courses with a lower than acceptable GPA, especially since these screening courses cannot be repeated at UCSD. Likewise, a student whose overall GPA (currently 2.8) is acceptable, but whose grades in those screening courses completed suggest the desired major will not be achieved, should either be rejected or admitted into an alternative major.

Information about impacted majors and the screening procedure *must* be distributed to applicants and prospective applicants in as timely a manner as possible. Admission letters contain specific information about the process of applying to the major. Students should be encouraged or even required to complete screening courses before transfer. This problem is a specific example of the need to stress the importance of prerequisites to the major at a time when greater emphasis has been upon completing general education courses. This is especially true for students in engineering and the sciences. The task force urges the Admissions Committee and the Admissions Office to deal with this issue as soon as possible.

D. Transfer Students and the College System

There has been periodic informal discussion at UCSD about the wisdom of having a special undergraduate college devoted solely to transfer students. The success of the campus in attracting increasing numbers of outstanding freshmen applicants has been attributed, in part, to the college system. On the other hand, growth of applications at the transfer level has been slower, a fact ascribed by some to the difficulty of explaining the differences between the UCSD colleges to community college advisors and students.

During the late 1980s and early 90s there was tremendous pressure from the legislature to improve the transfer function, a key component of the 1960 Master Plan for Education. UC was singled out as particularly difficult to transfer into, partially because of different general education (breadth) requirements at the eight campuses. The length of time-to-degree for transfer students, who typically enter at the junior level but still require, on average, three years to complete their degree, has also been associated with differences in general education requirements. Coupled with the attack on general education requirements, *per se*, this pressure led BOARS (the UC-wide Senate Admissions Committee) to adopt in 1991, an Intersegmental General-Education Transfer Curriculum (IGETC).

INTERSEGMENTAL GENERAL-EDUCATION TRANSFER CURRICULUM (IGETC)

Summary Outline

Completion of the Intersegmental General-Education Transfer Curriculum (IGETC) will permit a student to transfer from a community college to a campus in the University of California system without the need, after transfer, to take additional lower-division, general-education courses.

It should be noted that completion of the IGETC is not a requirement for transfer to UC, nor is it the only way to fulfill the lower-division, general-education requirements of UC prior to transfer. Depending on a student's major and field of interest, the student may find it advantageous to take courses fulfilling the general-education requirements of the UC campus or college to which the student plans to transfer.

These requirements, perceived by many to be unacceptably low, presented a special challenge to UCSD and its five colleges which are specifically differentiated by their general education requirements. BOARS did not require all UCSD colleges to accept IGETC, since all majors are open to students in all colleges. The two colleges, Revelle and Eleanor Roosevelt, with the most structured curricula, do not. Three colleges (John Muir, Thurgood Marshall and Earl Warren)

accept IGETC although requiring certain additional non major courses for graduation, as opposed to general education.

Transfer students to all five colleges may also enter under TAG (Transfer Admission Guarantee) or via articulation agreements which UCSD has with over 100 California community colleges.

IGETC is applicable at Earl Warren, Thurgood Marshall, and John Muir Colleges only. Students who follow IGETC are welcome to apply to Eleanor Roosevelt or Revelle College; however, they must also complete the appropriate college requirements.

English Communication:	One course, English Composition, three semester/four to five quarter units; this course is a prerequisite to Critical Thinking.
	One course, Critical Thinking-English Composition, three semester/four to five quarter units; strong emphasis on writing, prerequisite: English Composition.
Mathematics:	One course, Mathematics/Quantitative Reasoning, three semester/four to five quarter units.
Arts and Humanities:	Three courses, at least one course in arts, and at least one course in humanities, nine semester/twelve to fifteen quarter units.
Social and Behavioral Sciences:	Three courses in at least two disciplines, social and behavioral sciences, nine semester/twelve to fifteen quarter units.
Physical and Biological Sciences:	One course in each area, at least one must include a laboratory, two courses, seven to nine semester/nine to twelve quarter units.
Language Other than English:	Proficiency equivalent to two years' high school study.

Not surprisingly, IGETC has proven very popular for community college advisors whose students may apply to any (or all) of the UC campuses as well as those of the State University system which also accepts IGETC. More and more transfer students are following this pattern (to their academic detriment general education purists might argue), distorting the distribution of transfer students among the UCSD colleges:

Table V.C
New Transfer Students - Fall 1996

Revelle	134
John Muir	227
Thurgood Marshall	164
Eleanor Roosevelt	61
Earl Warren	277 *
Total	863

* The Warren numbers may also reflect that alone among the colleges it requires fewer general education courses for engineering/computer science majors. This is discussed further in the Warren College Self Study

As UCSD begins a period of anticipated rapid growth in undergraduate enrollments (Table V.D), the necessity to begin planning for a Sixth College (New College) is obvious.

Table V.D
Three-Quarter Average Projected Enrollments
1997-98 to 2010-11

1997-98	1998-99	2000-01	2005-06	2010-11
14,700	14,650	15,250	17,600	20,000

If one accepts a range of 3,000-3,500 students per college as reasonable, New College would be needed around 2001 and essential before 2005. The campus will need to attract more advanced standing students as part of this growth, if it is to maintain the 60:40 upper division/lower division ratio, and meet its obligation to the Master Plan.

Increased numbers of transfer students and the IGETC situation are not the only reasons, however, advanced by those who would argue that UCSD should consider the establishment of a college for transfer students. The purpose of this report is to simply collect and discuss these arguments, not to decide between them or to recommend such a college, which is the function of a joint Senate-Administration Committee subject to faculty review. Before such a discussion, however, it is wise to define in general terms exactly what is meant by a "Transfer College," and how it might relate to the existing colleges. An important assumption widely accepted by its proponents, is that transfer students could continue to choose to enroll at existing colleges which would enforce their specific requirements via articulation agreements, requiring additional or unmet courses to be taken at UCSD, as appropriate. New College would presumably accept the IGETC courses as its general education requirements, but would be free to design, implement, and require a reasonable UCSD/New College graduation requirement (a requirement that involved more than two or three courses would probably be self defeating). Students in other colleges, including presumably those who entered as freshmen, would be free to transfer to the new college, although possibly not until they achieve junior standing. New College would have assigned faculty and academic and student affairs staff. The staff, however, would necessarily function in a manner different than current college staff, whose efforts, while extending to upper division students, it is generally agreed, focus primarily on lower division students.

Campus Opinion: The Task Force sought input on this issue from campus administrators including vice chancellors, deans, provosts, and former provosts. Initial reaction was often negative based on the assumption, perhaps correct, that such a college would "ghettoize" transfer students. Most respondents would agree with the Dean of Sciences that "transfer students are often outstanding and should not be sequestered but rather should enrich the existing student body." Whether a Transfer College would necessarily result in sequestration is a major concern of all respondents.

The Vice Chancellor — Student Affairs emphasized that a transfer college would definitely be distinct from the other UCSD colleges. For this distinction to be seen in a favorable light, "the new college would need to have prestige comparable to that of the other colleges and to serve its students as well."

Several respondents felt that a transfer college would allow the campus to better serve and recruit advanced standing students. There is a definite need for a high level faculty member or administrator to represent UCSD to the community colleges and to serve as an advocate for both the process and its students. The provost of a transfer college could serve in such a critical role.

The Provost of Muir College perhaps best summed up the arguments in favor of such a college:

■ In such a college, the entire structure: orientation, academic advising, student activities, housing, etc. all would be geared to the special needs of the transfer population. Spread as they now are among five

colleges, in each of which they are a minority, the transfer students do not receive the concentrated attention their special circumstances require.

- The Provost of this college would become UCSD's official liaison officer with the community college system - a position which the campus has needed for some time. Perhaps the most vexatious issue we have with transfer students is that they regularly enroll here without completing many prerequisites for their majors. Hence the typical three years to graduation. This prerequisite issue is a surprisingly difficult one that I am convinced will only be solved by some changes in campus policy (e.g., admission by major department) but also by a long-term cooperative effort between UCSD and our primary feeder community colleges. This is the kind of effort the Provost of a transfer college would naturally lead.

- It would restore some integrity to the notion that a degree from one of the existing colleges actually should reflect the educational structure of that college. As noted above, IGETC makes a mockery of college GE structure.

- It would recognize that once Eleanor Roosevelt College's complex is completed, the campus is not likely to form another full-fledged college with academic space, residence halls, etc. for many years. (In fact, completing ERC as an academic center will likely take a long time). To form an "ordinary" sixth college would condemn that college for the foreseeable future to the same hodgepodge of housing and collegiate space that has handicapped ERC.

- Currently Muir and Warren colleges receive the majority of transfer students and nearly half the first choice freshman applications. By reducing the number of transfer students in those colleges, the campus would be able to give more freshman applicants their college of first choice.

Objections to the concept of a transfer college centered on the belief that students in such a college would feel "excluded from the mainstream of UCSD." Such students would feel they had entered UCSD via the "backdoor." The Provost of Eleanor Roosevelt College raised a deeper concern, namely the lack of an academic program to define the college. She emphasized that:

- UCSD's colleges are differentiated by distinctive general education requirements that give the colleges their character and academic integrity. The transfer college would not have an academic curriculum to define and shape its character. Such a college could weaken the overall college system.

- The difficulties encountered by transfer students are real and need to be addressed. Transfer students do not become fully integrated into the life of the university and have less time to become effectively engaged with the faculty. She feels most of these problems which are not unique to UCSD can best be addressed by better advising in the sending institutions, departmental outreach, and commitment of more funds for non-traditional students. To be successful in serving such students will require faculty involvement, but she does not see a broad faculty base for such a college. She argues that transfer students can be better served by cooperative interaction among the existing colleges.

The full response to the question (available on request) indicates a lack of the strong support that would be necessary for such a distinctive college to succeed. In particular, faculty interest in such a college is minimal. At the same time, this study has helped the campus focus on the special problems faced by transfer students and the need for more resources to help the colleges better serve them.

E. Conclusions and Recommendations

At this point the task force offers the following answers to the questions raised in Section A:

- #### Is UCSD meeting its obligation to the transfer process?

    The answer would appear to be a qualified yes. UCSD does not admit all eligible transfer applicants, however, it also does not admit all eligible freshman applicants. As long as the system offers enrollment to all eligible applicants, not necessarily at the campus or major of choice, the Master Plan is assumed to be met. UCSD has maintained the desired 60:40 ratio of upper division to lower division students. We would also argue that it makes no sense to admit poorly qualified applicants even if they are technically eligible.

- #### How effectively are transfer students advised prior to enrolling at UCSD?

    We do not have sufficient evidence to definitively answer this question. The fact that just over a third of the respondents to our survey felt they had not taken appropriate courses to prepare for their major suggests that UCSD Outreach efforts in this area must be continued and possibly expanded. Improvement requires extensive faculty-to-faculty interaction, something hard to achieve with so many community colleges. We highly recommend increased efforts with our major feeder schools.

- #### How do transfer students feel about their experiences at UCSD?

    The surveys discussed in section B and our group discussions show that transfer students have concerns that are quite similar to those of freshman admits. They find UCSD to be academically very challenging and would appreciate more faculty interaction. They also find the campus social climate to be disappointing. They find the shift from the semester to quarter system to be particularly challenging. Older, "reentry" students feel the need for special consideration and at least two felt a transfer college would be an ideal solution. The task force can only recommend that existing outreach programs for transfer students be continued and improved. The one day college advising sessions for new transfer students should also be reviewed with input from students.

- #### Are there special impediments to timely graduation for transfer students?

    It would appear that there are two major reasons for the relatively long time it takes transfer students to graduate. Some students do not decide on a major early enough to take adequate prerequisites before transfer, or fail to do so because of the emphasis upon completing general education (IGETC and the long-standing Transfer Admission Guarantee, or TAG contract, program). These are problems primarily for science and engineering majors. Requiring major screening courses to be completed prior to transfer should improve this situation. Other factors that contribute to longer time-to-degree are that transfer students are often independent, are more likely to work part time or even full, and are more likely to have family obligations, etc. These factors need to be kept in mind when planning programs for transfer students.

- #### How can we facilitate the transfer process without sacrificing UCSD's unique college - general education system?

    Moves to consolidate all general education requirements into a simple set of distribution requirements do not blend well with the college system. This is already true of IGETC, the major mode of preparation for transfer. Such students have little contact with their college between orientation and graduation. Those colleges that do not accept IGETC need to better explain the advantages of their programs to prospective

students, and encourage them to enter via articulation or TAG. Transfer students who aspire to degrees in science and engineering should not have excessive problems in Revelle whereas humanities/social science majors could be well served in Eleanor Roosevelt College. Alternatively, these two colleges might have to consider different GE requirements for transfer students. There does not appear to be an easy answer to this question.

■ Should transfer students be admitted by major?

As explained in Section c, the task force feels the campus should move toward accepting applicants to science and engineering departments (or at least to impacted programs) by major. Such a change needs to be phased in, but can start relatively soon by offering students who clearly will not be accepted into their first choice major, admission to an alternative major. It serves no purpose to admit a student as a pre major if screening course grades indicate it is impossible or unlikely that he/she will pass the screening process.

■ Should Sixth College be designed specifically for transfer students?

The arguments presented in Section d should be made available to the committee(s) considering Sixth College. At this time it appears unlikely there is sufficient support for such a radical departure from the present college system. We would urge, however, that the planners of Sixth College carefully include the transfer process in their deliberations. It would be very helpful if the new college's general education requirements were "transfer friendly" (i.e., close to IGETC). The campus should also consider appointing a faculty member (or administrator) as community college contact person. There is significant interest in the community colleges in improving the transfer process. A UCSD representative with academic credentials is needed to not only facilitate successful transfers, but to serve as our contact person.

UCSD will address the issues raised in this section of the *Self-Study* in several ways. The Task Force will submit its final report to the Academic Senate's Admissions Committee, which sets policy, and to the office of the Assistant Vice Chancellor — Enrollment Management, which implements Senate admissions policy and also supervises outreach to the community colleges. A joint Senate-Administration committee will be formed soon to plan for UCSD's sixth college, and it will also have the Task Force report for reference. Finally, the Task Forcewill present directly to the Chancellor and Senior Vice Chancellor — Academic Affairs its recommendation that the campus appoint a senior faculty person to serve as a liaison with community colleges.

VI. TECHNOLOGY IN UNDERGRADUATE EDUCATION

A. Introduction

The use of technology to support teaching and learning is increasing at a rapid rate. Computer-based tools bring virtual reality and three dimensionality to the classroom. Faculty now use worldwide web sites to disseminate information to and interact with students. Electronic office hours are conducted via email and conferencing software. While much of the new technology is computer-based, traditional analog technologies, such as film, video, and audio, continue to be used within the classroom to support education.

The use of technology in the classroom to support teaching is controlled by the faculty, for they determine whether or not to employ such technology to enhance their pedagogical efforts. A variety of support services staff provide assistance to faculty and strive, within current budget constraints, to make sure that the campus classroom, equipment, and networking infrastructures are sufficient to support the instructional technology needs of the faculty.

This self-study focuses on the use of instructional technology to support undergraduate teaching and learning at the UCSD. Sections B and C describe the organizational units and programs responsible for supporting the use of technology in the classroom. Several key UCSD and UC-wide initiatives linked to instructional technology are reviewed in Section D. Section E, the main body of the self study, covers the primary issues associated with the use of technology in undergraduate teaching and learning at UCSD and the changes that need to occur. Section F concludes the report. This self-study does not address instructional technology issues faced by the graduate and professional schools, since these schools do not play a key role in undergraduate education. Nor does this self-study address the range of technological issues associated with research conducted by faculty or graduate school students, even though upper division undergraduates may play important support roles for faculty-sponsored research.

How does UCSD's instructional technology environment compare to those found at other research universities across the country? While it is difficult and perhaps impossible to provide valid scientific data to formulate any such comparison, UCSD clearly faces the same range of challenges that are now being addressed by all research universities across the country. In some areas, we appear to be "ahead" of our sister institutions. In other areas, we lag behind. And in all areas, we struggle to find workable solutions along with nearly every other comparative institution.

How effective is the use of such technology in improving teaching and learning? No valid analysis has been conducted at UCSD to determine whether expenditures in instructional technology are worth the investment. Anecdotal evidence varies widely: devotees cite examples where instructional technology improves education; critics often challenge such anecdotal evidence.

B. Campus Support Units for Instructional Technology

The key organizational units responsible for supporting the use of technology in undergraduate education are: Academic Computing Services, including the Office of Network Operations, instructional computing lab support, and the new Instructional Web Development Center for faculty; the Media Center, consisting of the Media Teaching Laboratory and Audio-Visual Services; and the UCSD Libraries, including the Playback Center, the Slide Library, the Film and Video Collection, the Music Listening Facility, the Distance Learning Facility, and the now closed Multimedia Development Center. These units are led by directors reporting to the Associate Vice Chancellor for Academic Information Technology. They are described below:

1. Academic Computing Services (ACS)

The mission of ACS is to facilitate academic uses of computers and networks. Its principal functions associated with the use of technology in undergraduate education include: managing computing equipment required for the support of instructional programs at UCSD, including the operation of over 60 instructional computing labs containing a total of over 1300 desktop computers; managing the logical portions of the campus data networks and their connections to departmental networks and external services; managing the campus-wide electronic mail system, containing over 25,000 registered users; managing the dial-in modem service; maintaining software volume purchase agreements and site licenses; providing consulting services; and providing on a recharge basis computing and related services to departments.

ACS consists of eight units. Since skill sets are not universally shared between personnel in these units, projects are often assigned outside of their natural units. Unless otherwise noted, funding for these units is provided from an Instructional Use of Computers budget.

Network Operations (15 FTE): NetOps is responsible for the operation of the campus network in conjunction with Telecommunications. NetOps is generally described to be responsible for the data portion of the network. It manages the campus routers, Internet connection, email system, residence hall networking, and dialin service. NetOps is also responsible for numerous ancillary networking functions such as IP number registration, the Domain Naming System and Network News. A user services group also operates within this unit. Funding for this unit is based on direct charges to the users.

Instructional User Services (9 FTE): This unit provides the first line of user support for ACS instructional systems. Career staff provide technical assistance and planning support to instructors and TAs. Student staff provide technical assistance to students. Users can obtain support via the telephone, email, a web page, or by coming to the User Services office. Students can also obtain help in the instructional computing labs by asking a student consultant. This unit is responsible, with Microcomputer Support, for the acquisition, installation and management of applications software used in instruction.

Microcomputer Support (6 FTE): Microcomputer Support provides the management services needed to operate the ACS pool of 400 PC and 475 Macintosh computers and associated NT and AppleShare servers. This unit ensures that each lab has the proper load of software to support the assigned courses and lab peripheral equipment.

The Rent-A-Tech service provides a knowledgeable student technician, on a recharge basis, to do various low level computer system administration tasks such as software installation, troubleshooting and simple hardware installation.

This unit also distributes campus software licenses on a cost-recovery basis.

UNIX Systems Support (5 FTE): This unit installs and maintains the UNIX variants in use at ACS, including SunOS, Sun Solaris, SGI IRIX, HP UX, BSDI, IBM AIX. It installs and maintains applications software used on ACS UNIX systems. It manages the ACS Instructional Network and all ACS UNIX equipment and associated peripheral devices - approximately 20 UNIX servers, 325 UNIX desktop computers and 100 X Terminals. It maintains ACS printing facilities which include over 50 printers in instructional computing labs campuswide. It manages and maintains ACS's Network Appliance File Servers which provide over 50 GB of storage for student files. Contract support for non-ACS UNIX equipment is handled by this unit.

Operations (7 FTE): Operations handles the low-level facility maintenance chores of ACS. It ensures that instructional computing labs are functional, secure, and provided with supplies such as printer paper. It transports

equipment between labs and the electronics shop. It installs new labs. It supervises the ACS computer room and monitors systems and peripherals housed there for correct operation. It performs system backup tasks and supervises off-site storage of backup tapes.

Electronic Repair (4 FTE): Electronic Repair maintains and repairs ACS's equipment and, on a recharge basis, that of other departments. Technicians are trained in the repair of networking equipment, Macintoshes, Pcs, and a variety of UNIX workstations.

Instructional Web Development Center (2 FTE): This activity, which has not yet opened, provides a follow-on to the MDC (described in section 2) which will focus on assisting faculty to develop WORLDWIDE WEB based instructional materials. See Section 5.2 for a complete description of the proposed Instructional Web Development Center.

The total budget for ACS is 3.4M. This includes 2.0M for instructional support and 1.4M for recharge operations.

2. Media Center

The Media Center offers two campuswide services in support of instructional technology. First, through the Media Teaching Laboratory, facilities for departments teaching classes in media production are provided. Second, audio-visual support for instruction is provided by offering traditional media equipment.

Media Teaching Laboratory: The mission of the Media Teaching Laboratory is to provide media students enrolled in production courses access to production facilities required to complete academic work in film and video, both at the undergraduate and graduate student level. Undergraduates in the departments of Music, Theatre, Anthropology, Communications, and Visual Arts are the primary users of the facility.

Media Teaching Laboratory facilities include a three camera television studio, a studio optimized for 16mm film production, six video editing rooms, four film editing rooms, two audio studios and a postproduction suite with limited digital effects. The technical staff provide campus wide repair of video and film equipment and provide engineering support for UCSD-TV.

The Media Teaching Laboratory's budget is $327,533 (instructional support) and $10,000 (recharge income). It has 5.5 funded FTE.

Audio-Visual Services: Audio Visual Services provides high quality, cost effective audio-visual equipment and services as instructional support to the UCSD community.

Audio-visual services include a complete range of film, video, slide and overhead projectors. Also available are sound systems, audio and video tape duplication, video recording and playback in various tape formats. The recent addition of a university-wide compressed video network provides both teleconferencing and distance learning services to academic and administrative users.

The budget of Audio-Visual Services is $252,573 (instructional support) and $382,000 (recharge income). It has 6.0 funded FTE and 10.8 funded FTE from recharge.

3.   UCSD Libraries

The UCSD Libraries provide key technological services that support undergraduate education. Six of its libraries, the Art & Architecture Library, the Biomedical Library, the Music Library, the Science & Engineering Library, the Social Sciences and Humanities Library, and the Undergraduate Library serve undergraduates.

All libraries provide access to a variety of electronic information resources, including bibliographic, textual, numeric, and directory files. Some resources are available through ROGER, UCSD's online system, or via CD-ROM. Other resources are available through MELVYL, the online system for the University of California as a whole. Still others are available from commercial database systems.

The advent of the WEB and increased use of the Internet to seek information have dramatically altered the electronic landscape within the UCSD Libraries. Librarian-managed websites provide subject-based access to important information used by undergraduates. Librarians have partnered with faculty to develop information-rich websites for specific undergraduate courses. The Library developed and manages InfoPath, the UCSD campuswide information system.

In addition to the important role that scholarly information in electronic form plays in undergraduate education, a number of specific library programs provide instructional technology support for undergraduate education. These are discussed below.

The Playback Center: The Playback Center, located within the Undergraduate Library, provides a 2000-title collection of spoken word, audiovisual, and multimedia materials specifically selected to support coursework campuswide, in all subject areas (exclusive of music), at all levels of the curriculum. The Playback Center provides access to its collection and reserve items using a variety of video monitors and players, slide projectors, CD players, and audiocassette players. Viewing stations have full function remote control and there are also two group viewing rooms for 4-6 persons that support all major video formats. The Playback Center is connected to the campus network.

Slide Library: The Slide Library, housed in the Art & Architecture Library, contains over 250,000 items providing visual documentation of art and architectural works to support classroom teaching and presentations at UCSD. Access is provided by Botticelli (an on-line catalog). Art and Architecture Library (AAL) slides circulate to UCSD faculty (including adjunct and emeritus), extension faculty, and students and staff to support UCSD classroom instruction and student presentations.

Film and Video Collection: The UCSD Film & Video Library (FVL) houses more than 6,000 film, video & laser discs for direct support of the campus curriculum. The FVL also serves as a reference provider for film & video studies. It is administered by the Music Library.

Music Listening Facility: The Music Listening Room, located in the Music Library, is a remote playback facility supporting the coursework of UCSD faculty and students. Trained staff members handle the sound recordings in a controlled environment with a sophisticated router connected to 60 remote control listening stations. The listener can directly control any of the cassette decks, reel-to-reel tape decks, turntables, CD players, laserdisc players, VHS HiFi VCRs, and BETA HiFi VCRs. Ten of the remote control listening stations are equipped with video monitors.

Distance Learning Facility: The Distance Learning Facility provides bidirectional compressed video and audio connectivity to other distance learning classroom within the University of California, the California State University System and, through the use of leased circuits, any location with the ability to send and receive compressed video.

In the early part of 1998 the 108 campuses of the California Community College System will be connected to the network. The system is completely interactive for both the students and instructors. In addition to regularly scheduled classes the facility is frequently used to bring a guest lecturer "to the campus" for one or two sessions of a traditional class. Connections of this type have been made to campuses within the UC system and as far away as the University of Moscow.

Multimedia Development Center: The Multimedia Development Center (MDC) was formed in 1995 and provided training to faculty in the use of modern instructional technology. Funding for MDC was provided through a 3-year pilot program. The facility was managed jointly by ACS, the Media Center, and the UCSD Libraries. It was housed in Geisel Library and was closed in June 1997, after the conclusion of the pilot program. A detailed analytical report was completed at the conclusion of the three-year pilot. Faculty support for developing instructional technology tools has now been moved to ACS and a new facility will be opening in November 1997.

C. Academic Departments Support of Instructional Technology

Academic departments and divisions may play important roles in supporting instructional technology needs. The amount of this support varies considerably from department to department. Each department is expected to have at least one individual who serves as a computing support specialist. This individual facilitates the resolution of computing problems of the departmental faculty and is also responsible for serving as a formal liaison to Academic Computing Services. Not surprisingly, the quality of support provided by each department varies considerably, depending on the type and level of staff within each department assigned to provide instructional technology support. Given the resulting range of expertise and commitment, some departments are well-positioned while others are poorly positioned to provide instructional technology support at a department level. Those departments that are poorly positioned rely even more heavily on the central support units described above.

Larger, department-level units, with well-qualified staff, exist in a number of academic departments to address instructional technology-related support needs, among other things. For example, the School of Engineering has a separate computing facility, the Office of Engineering Computing, that provides coordination and planning support for computing and communications related activities within the School of Engineering and its departments. The Chemistry and Biochemistry Department maintains a Chemistry and Biochemistry Computer Facility that provides computing support for faculty. The Biology Department maintains a Biology Computer Services Unit to serve its faculty and students.

For more details about individual departments and their support of instructional technology, please refer to the self-studies done by each department as part of the accreditation process.

D. UCSD and UC Initiatives Supporting Instructional Technology

Several recent initiatives have occurred within the University of California and UCSD that will affect the use of instructional technology in undergraduate education. These are described below.

1. All-University Conference on Teaching and Learning Technologies and the Present and Future of the University (AUCTLT)

The University of California held an all-university conference on March 25-26, 1997, to discuss the potential of new information technologies to enhance teaching within the University of California, and to develop recommendations designed to maximize that potential. Conference attendees included faculty, academic administrators, librarians, academic computing and instructional improvement staff, media directors, and students.

Of key importance is the critical follow-up and action agenda that is now being developed as a result of the All University Conference. A draft document, called "Future Directions for Teaching and Learning Technologies at the University of California," was compiled by UC administrators that laid the framework for a plan for the development, dissemination, and use of teaching and learning technologies at the University of California. The document covered four areas, including:

■ core standards to ensure adequate support, training, and technological access for every student, faculty member, and supporting staff member across the University

■ implementation of Universitywide activities to extend technological innovations initiated by faculty on their campuses and make them more widely available within and beyond UC to improve the quality of teaching and learning for students

■ examination and possible modification of University policies to remove roadblocks to the wider use of such technologies

■ integration of campus-based and Universitywide planning activities.

The initial response to this draft has been "vigorous and substantial." A "Q and A" fact sheet was issued by the Office of the President in May 1997 and a revision to the original "Future Directions" draft is expected shortly.

2. UC's Instructional Technology Initiative

UC prepared an Instructional Technology Initiative as part of its 1997-98 Regents Budget. The Initiative, as proposed, was based on a shared, multi-year funding strategy to meet campus-level instructional technology funding needs, with funds projected from four sources: new State funds, a student-paid Instructional Technology Fee, funding or in-kind contributions from business and industry, and increased funding by campuses. Increases are to be phased in over 3-4 years. The annual fee revenue and new State funds were projected to total up to $40 million, with additional amounts from campus reallocations and private industry.

The overall proposal focused on generating new resources for the following purposes:

■ Improved teaching and learning

■ Improved support to students

■ Improved access to library resources

■ Improvements to network infrastructure.

At UCSD, a committee of faculty, staff, and students was formed, led by the Associate Vice Chancellor - Academic Information Technology, to discuss how UCSD should spend its share of the instructional technology funds. A list of funding needs was assembled.

As plans progressed, attention at the Office of the President was focused solely on the Instructional Technology student fee. During legislative discussion, this fee increase was eliminated. Instead, the state provided UC with $4 million for FY97-98 to distribute to the campuses to support instructional technology needs. As the emphasis on student input lessened, with the elimination of the fee increase, the UCSD committee was disbanded.

In Spring 1997, UCSD was asked by the UC Office of the President how it would spend its portion of the instructional technology monies. The Associate Vice Chancellor - Academic Information Technology was asked to make a recommendation on how these funds should be spent. A spending plan was developed and discussed with numerous groups, including the attendees of the AUC-TLT. UCSD received $446,000 as its share of the Instructional Technology monies. Recognizing that unmet needs vastly exceeded the amount of funding available, the 97-98 spending plan focused on infrastructure support that would benefit broad segments of campus. It recommended the following:

- Improve network connectivity: $100K/year

- User support for instructional technology computing: $90K/year

- Access to electronic resources via the Libraries: $66K/year

- Classroom support for Instructional Technology: $30K/year

- General use computer labs for students: $80K/year

- Instructional technology development support for faculty: $80K/year

Following the receipt of the monies from the Office of the President and with the arrival of a new Senior Vice Chancellor for Academic Affairs, monies that were anticipated to be "permanent" were reclassed as "temporary" and provided to the operating units and the spending plan recommendations were put "on hold" pending additional review by new leadership within the Academic Affairs office.

UC anticipates receiving an additional $4 million for 1998-99. A subsequent spending plan for 98-99 monies was requested by the Office of the President and was generated by the Associate Vice Chancellor - Academic Information Technology.

3. UCSD Task Force on Instructional Technology

The Interim Senior Vice Chancellor - Academic Affairs, in response to discussions that took place at UC's All University Conference on Teaching and Learning Technologies, formed a campus-wide, representative Task Force during Summer 1997 to consider the following questions:

- How should the campus organize itself to promote and support the use of instructional technology?

- How can we achieve collaboration and cooperation across the UC system?

- How can we, at the local level, facilitate communication and collaboration among individuals who are involved with instructional technology?

- Should we have a campus advocate whose primary role is to promote and encourage the use of technology in the classroom?

- How can we achieve an appropriate level of funding to cover both development and deployment of instructional technology?

The Task Force will be meeting during the course of the 1997-98 academic year and submitting recommendations to the Senior Vice Chancellor — Academic Affairs in Spring 1998.

4. Intercampus Academic Program Incentive Fund (IAPIF)

IAPIF: The Intercampus Academic Program Incentive Fund, "IAPIF," is a three-year competitive grants program sponsored by the Universitywide Academic Planning Council. The Fund is "intended to serve as an instrument to help discover and support creative intercampus instructional initiatives that are already underway and to stimulate the development of new proposals for such activity." The Office of the President expects "to use the experience gained to foster new instructional delivery systems as well as to identify and remove impediments to cross-campus programming. UCSD has had good representation among the campuses who got money from the fund; most of the projects have or plan to use interactive distance learning technologies.

E. Primary Issues

The remainder of this self-study focuses on the primary issues facing UCSD as it attempts to support instructional technology needs of its faculty and students.

1. Pedagogical issues

Leadership: There has never been an individual on campus who has been given the responsibility to coordinate the use of instructional technology at UCSD to improve teaching and learning. At times, the Associate Vice Chancellor - Academic Information Technology has been expected to play this role, since the relevant key support units report to him. As the use of instructional technology increased on campus during the last two years, it became apparent that the campus lacked academic leadership in this area to champion the use of instructional technology in the classroom and improve instruction. The campus lacked a coordinating or unifying administrative entity for classroom instruction. It also lacked a forum to address issues of instructional technology.

In 1994, a UCSD Committee to Review Instructional Improvement submitted its recommendations to the Vice Chancellor for Academic Affairs. This committee urged the campus to do more: "Technology will soon change the way we teach. Potential changes range from the modest use of presentation software to improve traditional lectures to the creation of elaborate multi-media instructional tools which, for some purposes, supplant the traditional classroom teacher. UCSD must be aware of what is happening and be prepared to adopt new and better ways of teaching." One of the recommendations was that the Vice Chancellor for Academic Affairs appoint an Associate Vice Chancellor for Instruction who would have a ladder-rank faculty appointment and, among other things, would provide academic input, leadership, and coordination for matters pertaining to instructional technology. In April 1995, the Vice Chancellor for Academic Affairs responded to this specific recommendation as follows: "This recommendation did not receive strong support and is the sort of basic organizational change which must await a new Vice Chancellor."

The Senior Vice Chancellor for Academic Affairs has now initiated a new process to determine to what extent UCSD wishes to promote and encourage proactively the use of instructional technologies in the classroom by appointing the UCSD Task Force on Instructional Technology in the Fall 1997. With the creation of this task force, issues of academic leadership will be addressed.

If the campus does decide to actively promote and encourage the use of instructional technology, then dedicated academic leadership within the SVCAA's office is critical. A campus leader could foster the development of a cohesive campus plan for action. This individual should be someone who would be seen by faculty as a colleague,

someone who can showcase who we are and what we can do, while working to bring units together for internal and external funding. This individual could also represent UCSD at off-campus events regarding instructional technology.

Effectiveness: As various faculty began to use instructional technology on campus and push for increased funding and support, discussions also occurred regarding the effectiveness of such technology. Nor surprisingly, campus opinions varied on whether or not teaching and learning is improved through the use of instructional technology. When the Multimedia Development Center was first launched, numerous questions were posed regarding the alleged benefits that could be realized by using instructional technology to support teaching and learning. The debate regarding effectiveness has diminished, however, as UC has placed increased emphasis on supporting such technology, through the AUCTLT and the UC Instructional Technology Initiative. Questions now focus on training and support needs of the faculty and complaints are now lodged about lack of adequate infrastructure and support for instructional technology.

Incentive and reward issues: Developing multimedia tools to support instruction is a very time-consuming task for faculty. The incorporation of technology, with its complexities and challenges, into the course development process poses additional problems that many faculty feel inadequately trained to address. Investments in time are not yet adequately supported budgetarily nor are the fruits of such labor necessarily valued academically during tenure and promotion processes.

In the first draft of the report "Future Directions for Teaching and Learning Technologies at the University of California," much attention is paid on the issue of creating a funding mechanism to develop courseware modules and objects that can be broadly useful within and beyond the University. The report also looks at the issue of faculty recognition and compensation in order to encourage the development of courseware and the publication of digital documents.

Role of faculty in developing instructional technology tools: To what extent are faculty willing to do the development work themselves? This issue has not been resolved. Some faculty welcome an opportunity to learn how to develop such multimedia tools; others expect that the University will supply "experts" that will work with them to develop instructional technology tools. The extent to which we expect the faculty to make what they need for themselves and how much we want to hire people to make things for them that the faculty cannot themselves then modify is an issue that will need further discussion.

Intellectual property rights: The "Future Directions for Teaching and Learning Technologies at the University of California" report also addresses the issue of copyright and intellectual property policies by recommending that a formal task force be created to explore these issues. A Copyright Task Force has been formed by UC's Office of the President to "undertake a review of copyright policy and practices important to the new world of courseware created by the University of California, the use of copyrighted material in all academic areas, relationships with commercial vendors, and responsibility for compliance with copyright law."

Distance Learning: The use of distance learning technologies has increased slowly, beginning with the use of a teleconferencing center in Fall 1994 and continuing with the creation of the Distance Learning Facility in Geisel Library in Spring 1995. Like instructional technology in general, the campus lacks academic involvement in guiding the use of distance learning technologies. In the three years of operation, an average of four courses per quarter have been offered via the distance learning network. There is no additional cost to departments offering or receiving distance learning courses.

Through the Distance Learning facility, UCSD has begun to provide high technology education to major corporations that are closely aligned with the University. Demand for such services continues to grow.

Additional distance learning facilities are being constructed in the School of Engineering. Another distance learning classroom will be available in the Undergraduate Library following its renovation in 1998-99.

The UC Distance Learning network needs continued funding from the Office of the President. This network has opened the classroom environment to all UC campuses, the California State Universities and other educational institutions as far flung as Moscow and Hong Kong. These educational opportunities would not have been possible if the Office of the President had not funded and created our state wide distance learning network. Each year that network is in danger of budget cuts.

2. **UCSD support for faculty as they develop and maintain technological tools**

As described in Section B, the Multimedia Development Center provided technological support to faculty for the creation of multimedia instructional tools. Typically, faculty used MDC in the following ways:

- to build web pages that serve as the cornerstone from which an entire site usually resulted. Generally, faculty would use the website initially to offer an electronic version of the course syllabus, reading list, practice quizzes, lecture notes, and other course requirements. Use of the web site sometimes grew by adding messaging functions. Faculty research was sometimes illustrated in the form of scanned images and/or text. Hypertext technology allowed for placement of links to other relevant sites that facilitated increased understanding of course content. Providing course material in this manner created broad access for current and potential students. Material remained available to the learner at the learner's discretion, even when other University resources were unavailable.

- to create a specific multimedia "presentation" which served to illustrate and enhance course content.

- to use highly specialized equipment not readily available on campus.

MDC also provided an active instructional program. The objective was to provide a learning forum through which faculty gained the suite of skills necessary to begin to incorporate more technology into their teaching and courses. A coordinator of instruction developed and taught the courses.

At the conclusion of the 3-year program, a series of recommendations were made.

One of the key recommendations called for the creation of a new service emphasizing low-tech, "bread and butter" projects as its primary goal. This new program for multimedia development support will be provided by ACS and was scheduled to be available by November 1997. A rough sketch of the program follows:

ACS will house instructional technology equipment in a room that would be available to faculty 24 hours/day, seven days a week. This instructional technology program would emphasize html development and provide JAVA consulting. It would discourage the development of digital video, except for short clips. It would create a week-long intensive early summer training program for faculty and would make ACS equipment and labs available during late summer (July and August) for completion of faculty projects.

A Programmer Analyst III would serve as a consultant/project manager. Two or more students would be hired at the Computer Resource Specialist II classification level and would report to the Project Manager. ACS would create a job bank of casual student staff at various classifications to meet occasional specialized needs.

A web page "hot-line" function would be retained to allow a random faculty member to call in to ask a question like "how would I add a sound file to my web page" or other software questions.

Formal classes and seminars on instructional technology for faculty would be offered.

Estimated total yearly budget (salaries and S&E) will be: $85,300-113,700. Financing of $80,000/year from the 97-98 Instructional Technology Initiative had been recommended to serve as the primary source of funding for this program.

3.   Student access to equipment and software

Access to computer workstations: Students access computing workstations and software either through utilization of devices that they own or through a number of computing labs located throughout campus [see 6 below.]

While more than 60-70% of undergraduate students own their own computer, UCSD does not currently require students to have a personal computer. ACS staff have argued that technology changes so rapidly that it makes no sense to mandate that an incoming freshman purchase a device that will be outdated by the time the student is a junior or senior and using computing at a much greater level. However, the action agenda from the AUCTLT is expected to advocate that all UC students be required to own their own computer. This issue will continue to be debated on campus.

Connectivity: Students have two options for connecting to computer services at UCSD. One option involves direct electronic connection. Students can connect directly to UCSD's primary computer network from a variety of locations. Some of these connections use university workstations; for example, many workstations in UCSD's libraries are directly connected to the network. The instructional computing labs containing computers and printers are scattered throughout campus are directly wired to the network and available for student use. Students who live in on-campus apartments or residence halls and who own a computer equipped with an Ethernet card may use the connection in their room to connect directly to the campus network. Because the UCSD network has an Internet feed, all of these locations are effectively "on the Internet."

In the second option, students can also access campus computing through what UCSD calls the "modem pool." If students live off campus, they may use a modem and telephone line and dial directly in to the campus network. There is a charge of $10/month for the use of the campus modem pool.

Students with disabilities: ACS has been receiving an increasing number of requests for modification of its facilities to accommodate students with disabilities. So far, ACS has been able to respond quickly but the projects are ad hoc, and the lack of planning has meant that funds are not expended efficiently. UCSD needs to fund a facility, perhaps as a joint effort of ACS and the Office of Students with Disabilities, that would contain a collection of computing equipment modified for use by those with a wide range of disabilities. $20K/year in equipment would provide for replacement and adoption of new equipment as new needs develop. A campus location would need to be designated to house this equipment. No source of funding has yet been identified.

Computer software: Students may acquire a package of supported network software for a nominal fee from ACS/Network Operations. The UCSD Bookstore sells commercial software at educationally discounted prices from its computer store. ACS also maintains a network repository of freeware and shareware.

Dorm wiring: All on-campus undergraduate housing units are now wired to the campus network, at a ratio of one network port per bed for a total of 5800 connections. Connectivity for married student housing is still being planned. These users typically rely on the campus modem service.

Student Computer Accounts: Undergraduates are given computer accounts at the time they return a Statement of Intention to Register form. Accounts provide access to email, file storage, software, Internet access and access to open computing labs.

Access to video production and editing equipment: For twenty years the Media Teaching Laboratory has provided students with analog video production equipment for use in classes teaching video production. Analog equipment now has been superseded by digital video cameras and recorders and by non-linear digital editing systems. There has never been permanent funding provided to meet the Media Teaching Laboratory's equipment needs. Due to the lack of permanent funding for equipment replacement, the Media Center has been unable to plan for the transition from analog to digital production tools, a requirement, since UCSD's production environment must be similar to the environment in the larger production industry.

For the next three years, two editing rooms per year need to be upgraded to non-linear editing. The cost of upgrading each room is $40K. The cost of conversion is only part of the funding problem. The equipment in analog editing rooms has a life of at least seven years but the Media Center regularly gets ten years of service from equipment. In the digital realm, a two to three year lifespan is normal for equipment.

Digital camcorders currently available provide higher quality images at far lower cost that our analog camcorders. At least four digital camcorders should be purchased each year for the next five years at the cost of $7K per camcorder, in order to complete the transition to the digital environment. No source of funds has been identified to meet any of these needs.

4. Faculty access to computing workstations and software

In 1995, UCSD inaugurated a Faculty Workstation Project. The goal of this project has been to provide a minimal level of computer connectivity for all general campus faculty from their office to support email, word processing, and software support to the campus information system and to the Internet. ACS surveyed all general campus academic departments to determine the extent and type of network accessibility that each faculty member has from his/her office on campus. Phase one of the project has been completed and faculty in the following departments were all equipped to the minimal level: Anthropology, Ethnic Studies, History, Literature, and Sociology. Phase two of the project was to begin in 1997-98 and the remaining faculty in the following departments were to be equipped over a two-year period: Communications, Literature, Music, Philosophy, Theatre, and Visual Arts. With the completion of Phase 2, all faculty at UCSD who teach undergraduates will be equipped at a minimal level to promote email and web use for student interaction and teaching. Total cost of the Phase two upgrades is expected to be $300,000. Funding from Academic Affairs of $150,000 for both for 97/98 and for 98/99 was approved in 1996/97 but the funds have not yet been released to support Phase 2.

5. UCSD Libraries' Support of Electronic Resources

High-quality electronic information resources will become even more critical to UCSD faculty and students as the library moves forward with its various electronic journal programs and relies more heavily on Web-based content and retrieval tools. All of the libraries' public "dumb" terminals need to be replaced by workstations capable of providing Web access so that electronic content can be made accessible within the library environment. Appropriate user interfaces need to be designed and instituted so that electronic content is easily located and displayed. It is also critically important that the library be able to provide high-end workstations for access to electronic content, since many students will not have sufficient computing power in their homes or dorms to be able to access electronic content efficiently. Funding of $66,000/year from the 1997-98 instructional technology initiative had been recommended to support the Libraries' InfoStation (Internet workstation) program.

6. Technological infrastructure

Campus network and bandwidth: The campus network is currently built around a 100Mbit/sec FDDI backbone. Individual buildings are connected to this backbone via FDDI or 10Mbit/sec Ethernet links. Nearly every significant building on campus is connected to this FDDI network with the remaining buildings connected to an older broadband technology network which provides Ethernet level connectivity.

The campus is now beginning the process of moving to a 155Mbit/sec ATM network backbone. The initial legs of this network connects the residence hall network and the Psychology and Linguistics Building to the FDDI network. Projects are underway to link the School of Engineering and the Revelle Campus. Funding for completion of a campus-wide ATM network is under discussion. All of the ATM projects to-date have been funded by the direct beneficiaries.

Academic Computing Services (ACS) provides the campus with a 10Mbit pipe to the so-called commodity Internet. This pipeline is frequently congested with traffic from students, faculty, researchers, and staff. Capacity will be taxed even further as the library starts delivering many electronic journal articles with images to individual workstations in the coming year. UCSD needs to double its capacity. Funding of $100,000/year from the 97-98 Instructional Technology Initiative had been recommended to improve bandwidth.

Other initiatives such as Internet-2, CENIC and UCNet may require that additional funds be expended on network connections. No source of funds has been identified to meet these potential funding obligations.

Classroom wiring and equipment: All classrooms have access to the campus network. In some cases a permanent connection is available at all times and in others connection equipment must be delivered and set up by Audio Visual Services. Currently all classrooms are networked via the broadband network with a portable RF Modem attached to a laptop computer with a projection panel. Plans are underway to add non lecture hall classrooms to the Novell network. This summer Audio Visual Services upgraded one lecture hall in Center Hall with an X-VGA data projector and increased the memory in all Mac's to 64 mbs. In addition, all eleven lecture halls not in Center Hall will be connected to the Novell network. Portable computers equal to equipment provided in Center Hall will be provided. Beginning in Fall Quarter 1997, Macs and IBMs are available in each classroom.

The capabilities of Center Hall need to be replicated to other UCSD classrooms at an estimated cost of $15K per classroom. Funding of $30,000/year from the 97-98 Instructional Technology Initiative had been recommended to upgrade two classrooms each year at $30K/year. Costs include projection, computers, and network connections. Media Center would continue to recharge for use and support by instructors. ACS would continue to support the computing equipment. Ongoing funding would provide a cash flow to replace the equipment as it becomes obsolete.

Unless all classrooms are identically computer-equipped, it is difficult for the Registrar to guarantee that a given course will necessarily be able to have any particular configuration of facilities in any particular term. Faculty are still not able to know for sure whether or not they will be able to darken the windows to show slides in a specific classroom assigned to them.

Instructional computing labs: There are presently approximately 1300 workstations and 120 ASCII terminals available in instructional computing labs. Seats are being added to this pool at the rate of 100 to 150 per year. Currently, loading in the instructional labs is at about 60% during the 8 a.m. to 5 p.m. period with the full usage occurring between 3 p.m. and 11 p.m.

ACS has approximately 120 aging ASCII terminals in six general use computing labs. These terminals represent a significant portion of the devices that are available for non-class-specific use. Because of the way funding for new equipment is handled currently, most new equipment ends up in ACS-managed course/department/division restricted areas, with the result that no funds have been available recently to update these general facilities. Currently, the other general labs with PCS or Macs are the busiest we operate, with lines of students forming to wait for available seats. Because of congestion in these facilities, we have refused to accept several requests for ACS to support large courses where the instructor wishes to begin making use of computer technology. Given the move to fee-for-service dialin, the use of the Web as a means of supporting instruction, the increasing use of computing as an incidental part of course work, and the library's continued move to electronic content along with Web-based catalogs and databases, we urgently need a program to replace these terminals. Funding of $90,000/year from the 97-98 Instructional Technology initiative had been recommended to replace 30 units each year with more advanced computers costing $3000 each (price includes the computer, software, network attachment and security hardware).

In order to identify departmental needs for instructional computing infrastructure, ACS conducts an annual instructional computing survey of each academic department. These Instructional Computing Plans provide ACS with the statistical information needed to anticipate individual course needs and provide a means for faculty to communicate academic direction with respect to computing.

Since funding for new and replacement instructional computing infrastructure is a fraction of the amount requested in the Plans, divisional Deans are involved in making allocations of resources within their divisions. A long standing formula is used to allocate funds between the divisions.

Digital production: The largest negative factor to digital production is the lack of a portable medium. In a tape based editing system students can remove their relatively inexpensive video tape from the editor, put it in their backpack and leave the editing room ready for the next user. In digital editing, the video must be stored on hard drives. The amount of video stored on one $15 tape requires at least 9 mb of disk storage. To maximize the effectiveness of non-linear editing, the Media Center proposes to install removable hard drives that would be stored in the facility. Students would not take the drive out of the building but storage lockers would be provided in the editing rooms, in order to reduce damage to the hard drives. To provide equal access to digital editing 24 large hard drives per editing room will be required at a cost of $2K per drive. Funding has not been secured for this equipment.

7. Human infrastructure

Support for Instructional Computing Labs: Computing labs are currently open from 7:00 a.m. to 10:30 p.m. Monday through Friday and 8:00 a.m. to 8:00 p.m. Saturday and Sunday. Undergraduate students are unable to use the facilities at other times because the labs are closed due to security concerns and the unavailability of staff to monitor operations. ACS Network and Computer Operations are also staffed only during the above times. ACS would like to open the primary labs 24 hours a day Sunday evening through Thursday evening. Most likely, a mixture of full time and student staff would be hired to open the labs around the clock during the peak part of the week. Expanding this coverage would improve lab equipment utilization (ACS continually receives complaints about the hours of operation) and would improve the reliability of the campus network by insuring that staff were available to monitor the network and take corrective action. The cost to increase hours is estimated to be $50,000 per year. No funds have yet been identified to meet this need.

Training: As the use of instructional technology continues to increase and with increasing amounts of information in electronic form now easily accessible from the faculty office, student dorm room, or home computer workstation, the need for training has escalated at UCSD. Staff have responded to this development by reaching out

to faculty and students and providing guidance and assistance in using instructional technology development tools and accessing electronic information resources. Network operations staff have developed a variety of training tools to facilitate connecting to the campus network.

Faculty: Training was a key component of the Multimedia Development Center for faculty and will be an important emphasis for the new Instructional Worldwide Web Development Center program within ACS that was to open in November to assist faculty with the development of multimedia tools to support classroom instruction. Faculty have also received training by librarians as part of the faculty workstation project. Nevertheless, much more training is needed, hampered at the present time by insufficient human resources to provide such training. Faculty using ACS instructional computing facilities receive one-on-one training from ACS consultants.

Students: The UCSD Libraries participate actively in undergraduate instruction through a variety of formal and informal activities. The Undergraduate Library has the most clearly defined role of providing instruction in research techniques and strategies but all campus libraries maintain active instruction services and programs. The goal of these programs is to introduce students to basic "library literacy," to support classroom instruction, and to provide training in accessing both print and electronic information resources. Students using ACS instructional computing facilities can obtain help from student assistants working in the labs and may attend an introductory workshop.

Staff: Staff in all instructional technology support areas also need training. Those units hiring large numbers of students or temporary workers are especially hampered with staff training needs given the large amount of turnover that exists in these areas. Audio/Visual staff training is critical in meeting the demands of faculty. Technical staff must also be trained in the operation and repair of digital equipment. ACS funds ongoing training for its staff. UCSD staff generally can obtain training from the Human Resources department's Staff Training and Development office. Such training costs money, however, and some academic departments are reluctant to expend funds on this endeavor.

ACS, along with several other UCSD entities, has recently purchased a suite of 300 computer based training courses on computer related subjects. These courses will be available to all UCSD students, faculty and staff via the campus network beginning in November 1997.

Ongoing user support: ACS has been absorbing increased numbers of students, courses, and instructors by using an increasing pool of equipment, but staffing has not been increased to match. Although ACS has become more efficient in the process, insufficient staffing has resulted in decreased facility reliability and inability to meet changing needs, both of which are viewed by ACS users as a lack of competence and responsiveness. The situation will become further exacerbated if UCSD adds additional equipment through the instructional technology initiative, without increasing staffing. Funding of $90,000/year from the 97-98 Instructional Technology Initiative had been recommended to add two new staff members which would put ACS back to the support ratios it operated under in 1990.

8.   Equipment replacement

The campus has long recognized the need for ongoing funding for equipment replacement in computer related fields and media production. Perhaps the single most important challenge facing the campus is that it does not have any adequate plan to replace the thousands of workstations and network devices on a regular basis. For example, the UCSD Libraries should be spending $450,000/ year on equipment replacement alone, assuming a five year amortization plan. Instead, it spends less than $100K/year on equipment replacement. As instructional technology becomes ever more prevalent across departments here at UCSD, equipment replacement will be an even more critical issue. No rational plan currently exists at UCSD for dealing with this critical problem.

9.   Support to academic departments for in-class A/V use

Audio/Visual Services started operation as a recharge unit in 1967 and has retained that fiscal framework to the present time. In the 1970s, the Vice Chancellor, Academic Affairs, created an A/V subsidy to assist academic departments using equipment in the classroom. This system provided departments with 80-85% of their A/V funds until the mid 1980s, when significant campus growth occurred without an increase to the A/V subsidy to cover expanded services. At that time, campus administrators told A/V that they could only expand services by funding both staff and equipment from recharge income. As a result, the percent of A/V subsidy to departments fell to about 50% of their needs.

Departments that now try to live within their AV budget end up getting their budget cut the following year. If a department then tries to live within its new, next year's budget, the policy of funding only at 50% of need drops the funding yet further. Clearly, the current subsidy structure limits departments from using A/V as much as they wish.

When Center Hall was under construction, the Senior Vice Chancellor for Academic Affairs funded the purchase of computer equipment for that building equipment fund with the clear understanding that existing recharge rates would provide for maintenance and replacement. A/V receives only $6000 per year for equipment replacement for an inventory that exceeds $500,000. Last year, A/V spent over $30,000 to replace and upgrade equipment. The additional replacement monies come solely from recharge revenue.

Had A/V funding kept pace with campus growth, A/V would be able to provide academic departments with subsidies that approached departmental needs and that would alleviate most of the current problems. Presently, it would require $160,000 per year permanent funding to raise the subsidy to 100%. A/V has requested additional funds each year that would increase the subsidy, but has not received additional funds.

A/V will continue focused discussion on these issues by urging the new SVCAA to form a Media Policy Committee to address the subsidy structure for departmental use of audio/visual materials in the classroom.

F. Conclusion

To conclude, UCSD continues to grapple with the challenges posed by the use of instructional technology to support undergraduate education. Like all research universities, it has had its share of successes and faces a range of short- and long-term problems.

UCSD can be proud of the fact that its undergraduate resident halls are now fully wired. The great majority of its faculty now work in offices that are equipped with hardware and software for access to electronic resources and the campus network. For the last three years, the campus has offered support to faculty for the development of multimedia tools to support instruction. Computing labs located throughout the campus provide access for undergraduates to hardware and software. Its libraries continue to exploit technology in order to serve students and faculty.

A number of short-term problems are now being addressed and include: how should the campus coordinate its academic uses of instructional technologies? How will the university support faculty as they develop instructional tools? How will the campus provide ongoing training to faculty, staff, and students to support the use of instructional technologies?

Two long-term problems overshadow all other difficulties faced by UCSD. The first one is the lack of an effective equipment replacement program for campus. The second centers on the next generation network. Both of these will require large amounts of money and no funding source has yet been identified.

The three initiatives discussed at the beginning of this study, the All University Conference on Teaching and Learning Technologies, the Instructional Technology Initiative, and the appointment of the UCSD Task Force on Instructional Technology are critically important and can provide significant help in addressing both short and long-term problems. Hopefully, these three efforts will enable UCSD to move forward successfully in improving undergraduate education and learning through the use of instructional technology.

VII.   CONCLUDING THOUGHTS

As mentioned in the introduction, this *Self-Study* comes at an opportune time for UCSD. With the apparent end of the budgetary problems of the early 1990's the campus is about to begin another growth spurt. Enrollment growth averaging 500 students per year will bring with it new opportunities as well as potential problems. New leadership at the highest levels, (Chancellor Dynes, Senior Vice Chancellor Chandler, and Associate Vice Chancellor Miller) is now in place and will increasingly influence decisions on how to sustain the academic achievements of the first 35 years while fostering new initiatives. Faculty-administration cooperation, so critical in the UC shared governance mode of operation, appears to be at an all time high.

Many of the problems facing the campus at this time have been addressed in this *Self-Study*. Perhaps the biggest, but also the most potentially frustrating, is how the campus can ensure campus diversity particularly at a time of rapidly changing demographics. This topic was deliberately excluded from the Self Study topics and separately addressed by a UCSD Task Force on K-12 Outreach. That task force has submitted recommendations, recently endorsed by the faculty, for a wide range of activities coordinated through a Center for Research in Educational Equity, Assessment and Teaching Excellence (CREATE). These programs primarily address long-term solutions to the lack of equity in educational opportunities. Left unanswered, however, is how the campus will deal with the immediate set backs brought on by elimination of affirmative action by both the Regents (SP-1) and voters (Proposition 209). This is a topic of great concern to most students and many faculty.

Since the last WASC review UCSD has instituted an active Office of Student Research and Information under the Vice Chancellor of Student Affairs. This office produced much of the data presented in the second part of this report. With increasing emphasis on "outcomes assessment," the campus will need to expand the activities of this office and better insure that its findings are incorporated into campus decision making processes. That such data can be so utilized is perhaps best illustrated by changes in UCSD graduation rates which have gone in ten years from being lowest in the UC system to second best. Barriers to timely graduation were identified and reduced.

The college system at UCSD and the five individual colleges also face challenges and opportunities, particularly as planning for a sixth college begins. The system itself has become a "signature item" for the campus but its defining component, different general education philosophies, is once again under attack from those who see education as vocational or who would homogenize general education to the least common denominator [e.g. the Intersegmental General Education Transfer Curriculum (IGETC)]. This is the first time individual colleges have been asked to review themselves but a variety of responses has one common thread, "How can the colleges maintain or increase faculty commitment, resources, and student involvement with learning?" The interaction of the colleges with the evolving divisional deans will also require attention.

The departments, those units responsible for student learning in the major, have relied heavily on internal review and periodic Committee on Educational Policy studies of their programs. As enrollments shift, impacted programs have sometimes needed to use temporary faculty or visitors as instructors and, in extreme cases, to institute pre-majors. The popularity of the biological sciences is an example of the need for control mechanisms. At the same time, less popular departments may need to broaden their majors or involve themselves in non-traditional programs. Methods to encourage and promote interdisciplinary programs in a departmentally based environment may need to be explored. The new long-range planning exercise, described in section I.E.3., will surely address these issues.

Transfer students are an important part of the academic mission of UCSD as defined by the *Master Plan*. This study has found that such students are similar in outlook and levels of satisfaction to those who enter as freshmen. Recruitment, admission, advising, and provision of support services for this group of students, however, needs

continual evaluation. In particular, the next college at San Diego must be "transfer friendly," and the campus needs a high level contact person to interact with the community college system.

The final section of this *Self-Study* explores the timely topic of instructional technology and undergraduate education. The report is a major agenda item for the new Senior Vice Chancellor, Marsha Chandler, and her newly appointed Associate Vice Chancellor, David Miller. Like many campuses, UCSD needs to expand the use of technology in undergraduate education with the most pressing problem, the lack of a fixed replacement funding mechanism. The level of sophistication among faculty, staff, and students is sufficiently high, however, that expansion and improvement in this area seems inevitable.

This *Self-Study* finds the campus optimistic about its future and generally excited about pending growth. Undergraduate education is monitored cooperatively by departments and colleges, and lies primarily in the hands of a highly committed faculty. It is our hope that this review will help us to achieve a level of success at the undergraduate level comparable with that already achieved in research.