I. Minutes:
   Approval of the January 31, 1989 Minutes of the Academic Senate (pp. 2-6).

II. Communication(s):
   A. Reading Materials (p. 7)
   B. The Academic Senate office of Secretary will be vacant Spring Quarter '89. Nominations are requested.
   C. President Baker has approved the following resolutions:
      AS-303-89 Promotion of Librarians
      AS-304-89 Tenure of Librarians

III. Reports:
   A. President - Budget Status Report
   B. Academic Affairs Office
   C. Statewide Senators
   D. Academic Senate Chair - Proposition 98 Augmentations
   E. Art Gloster - OASIS Update

IV. Consent Agenda:

V. Business Item(s):
   A. Resolution to Amend the Bylaws to Clarify Succession of Vice Chair to Chair and Election of a Replacement Vice Chair When the Chair is Permanently Vacated - Rogalla, Chair of the Constitution and Bylaws Committee, Second Reading (pp. 8-9).
   B. Resolution to Amend the Bylaws to Move Nominations for the Academic Senate from March to February - Rogalla, Chair of the Constitution and Bylaws Committee, Second Reading (pp. 10-11).
   C. Resolution on Academic Minors - Bailey, Chair of the Curriculum Committee, First Reading (pp. 12-13).
   D. Resolution on Graduate Programs - Bailey, Chair of the Curriculum Committee, First Reading (pp. 14-15).

VI. Discussion Item(s):

VII. Adjournment: time certain 4:55pm
Materials Available for Reading in the Academic Senate Office (FOB 25H)
Winter Quarter 1988-1989

(New reading materials highlighted in bold)

11/15/88 "A Quarter Century of Graduates" (CSU)

11/17/88 "Unfinished Business" (Achievement Council) - information re the large achievement gap that has separated minority and low-income students from other young Californians.

11/22/88 Status Report, Faculty Software Library Lottery Funds (Cal Poly)


12/7/88 "Statement on Competencies in Languages Other Than English Expected of Entering Freshmen: Phase I-French, German, Spanish (CSU Academic Senate)

12/7/88 1989/90 Amended Trustees' Support Budget (CSU)

12/28/88 Changing America: The New Face of Science and Engineering (Task Force on Women, Minorities, and the Handicapped in Science and Technology)


1/9/89 1987 Statistical Abstract [of enrollments] (CSU)

1/12/89 Items from the January 10-11, 1989 Meeting of the CSU Board of Trustees (Academic Senate CSU)
Background statement: The resignation of the Chair of the Senate generated a question for interpretation of the bylaws. This resolution is to expressly detail the Vice Chair is to succeed to the Chair and a replacement Vice Chair is to be elected from the Senate for the remainder of the term of office.

The Constitution and Bylaws Committee based this interpretation upon: (1) common practice, (2) a need for continuity in the operation of the Senate, and (3) belief that the other specified duties of the Vice Chair can be accomplished by a person elected during the term since many of them are to be accomplished late in the school year.

This resolution was passed by the Constitution and Bylaws Committee on October 25, 1988 with a vote of 5 for, 0 against. One member was absent. The schools of Architecture & Environmental Design and Science & Mathematics had no appointed representatives at the time of voting.

AS—__89/___

RESOLUTION TO AMEND THE BYLAWS TO CLARIFY SUCCESSION OF VICE CHAIR TO CHAIR AND ELECTION OF A REPLACEMENT VICE CHAIR WHEN THE CHAIR IS PERMANENTLY VACATED

WHEREAS, There is need to have continuity of operation of the Senate in the event of a permanent vacancy of the Chair; and

WHEREAS, The Vice Chair can supply this continuity; and

WHEREAS, A replacement Vice Chair will be needed to complete the duties of that office; therefore, be it

RESOLVED, That the Bylaws of the Academic Senate be amended as follows:

Article III.A.2. Vice Chair

In the event of a permanent vacancy of the Office of Chair, the Vice Chair shall succeed to that office and a replacement Vice Chair shall be elected to complete the term of office. The Vice Chair shall serve in the capacity of the Chair during his/her absence or upon the request of the Chair. The Vice Chair shall be responsible for compiling the annual reports from the committees and submitting these reports to the members of the Academic Senate.

Article VII.15.b.(4) Election of Senate Officers

(c) The committee shall receive nominations for other eligible candidates from the floor of the Senate provided that (1) at least two senators second the nomination, and (2) the nominee is present and agrees to serve if elected.
RESOLUTION TO AMEND THE BYLAWS TO CLARIFY SUCCESSION OF VICE CHAIR TO CHAIR AND ELECTION OF A REPLACEMENT VICE CHAIR WHEN THE CHAIR IS PERMANENTLY VACATED

AS—____-89/____-

Page Two

(d) The committee shall conduct the election of Senate officers at the regular May meeting of the Senate. Officers shall be elected one at a time: first the Chair, then the Vice Chair, and finally the Secretary.

(e) In the event of a vacancy in the offices of the Senate, the committee shall conduct an election at the next meeting of the Senate to fill the unexpired term. Nominations shall be made from the floor of the Senate in compliance with subsection (3) above.

Proposed By:
Constitution and Bylaws Committee
January 17, 1989
ADAPTED: ________

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

Background statement: The current schedule for Academic Senate elections requires nomination forms to be completed near or during Winter Quarter finals. This is a time of much faculty activity and completion of nomination (agreement to serve forms) may not be given a high priority. A change in timing may increase the attention or priority given to service on the Academic Senate.

This resolution was passed by the Constitution and Bylaws Committee on November 8, 1988 with a vote of 5 for, 0 against. One member was absent and the Schools of Architecture & Environmental Design and Science & Mathematics had no appointed representatives.

AS-____-89/____

RESOLUTION TO AMEND THE BYLAWS TO MOVE NOMINATIONS FOR THE ACADEMIC SENATE FROM MARCH TO FEBRUARY

WHEREAS, The Personnel office can have the information needed by the Elections Committee early in February; and

WHEREAS, There have been problems in obtaining willingness to serve applications for the Academic Senate in March; and

WHEREAS, This has caused the need for Senate seats to be filled by appointment rather than election; and

WHEREAS, There is a desire to have as full a democratic process as possible in the election; therefore, be it

RESOLVED: That the Bylaws of the Academic Senate be amended as follows:

Article VII.I.5.b.(2)

2. Election of Academic Senate Members, the Research Committee, and the University Professional Leave Committee:

(a) At the March first February meeting of the Senate, the committee shall announce impending vacancies in the Senate membership (according to the filled full-time equivalent faculty positions as of the first week of February, as listed by the University Personnel office), and the Research Committee, and in the University Professional Leave Committee. At the same time, each caucus shall be notified in writing of its vacancies.

(b) By Friday of the following week, each caucus shall notify the Elections Committee, in writing, of any discrepancies in the number of vacancies in its constituency.
RESOLUTION TO AMEND THE BYLAWS TO MOVE NOMINATIONS
FOR THE ACADEMIC SENATE FROM MARCH TO FEBRUARY
AS-89/89/

Page Two

(c) During the last full third week of March, the committee shall solicit nominations for the impending vacancies. Accepted nominations shall include a signed statement of intent to serve from the candidate. For each school and Professional Consultative Services, the Elections Committee shall determine that each nominee is eligible to serve.

(d) These changes will become effective for the 1990-1991 elections.

Proposed By:
Constitution and Bylaws
Committee
January 17, 1989
Revised January 31, 1989
Background statement: On December 4, 1979, the Academic Senate approved a resolution which endorsed the concept of minor fields of study at the University. Since that time, no fewer than nineteen minors have been instituted at Cal Poly. Currently, there is one minor under consideration by the Academic Senate Curriculum Committee and there are indications that as many as ten new minors may be in the proposal stage for the coming catalog cycle. The number of existing minors combined with the possible new minor proposals have raised the concerns of both the Academic Senate Curriculum Committee and Executive Committee.

AS-—89/—

RESOLUTION ON ACADEMIC MINORS

WHEREAS, The number of minors within the university curriculum has grown from none to nineteen in less than ten years; and

WHEREAS, At least ten new minors are being proposed for consideration in the next catalog; and

WHEREAS, There is no standardized procedure to determine the number of students currently enrolled in minors; and

WHEREAS, There is no readily available data as to how many students have enrolled in minors in the past and this information has only been included on their transcripts upon graduation; and

WHEREAS, Minors do not have to be declared until a student files for graduation; and

WHEREAS, The average course load per quarter for a student currently enrolled at the University is 13.5 units, with a minimum of 185 units--and most majors having 198 units--required for a degree program; and

WHEREAS, Many undergraduate degree programs have minimal (9) or less than minimal units available for completion of concentrations or free electives; and

WHEREAS, The average length of enrollment at Cal Poly is between five and six years; and

WHEREAS, No study has been carried out to investigate the effects of minors on the length of a student's stay or the benefits to their educational objectives; therefore, be it

RESOLVED: That an immediate moratorium on the consideration and approval of minors be instituted by Academic Affairs and the Academic Senate Curriculum Committee; and be it further
RESOLVED: That any minors which are already under consideration by the Academic Senate Curriculum Committee should be exempt from this moratorium; and be it further.

RESOLVED: That a study of minors be initiated by the Academic Senate Curriculum Committee for the Fall and Winter Quarters of the 1989-90 academic year with its findings and recommendations due to the Academic Senate by the last week of classes during that Winter Quarter; and be it further.

RESOLVED: That the scope of the study of minors should include such items as the purposes of individual programs as well as their clientele, the number of minors awarded in each program, the effects of minors on the length of a study program, the effects on resources, the impact on admissions, the relationships of General Education and Breadth courses and minors, the development of minors which take into account the unique educational environment offered at Cal Poly, the effects of minors on majors, as well as the procedures for declaring and monitoring a minor.

Proposed By:
Academic Senate Curriculum Committee
February 2, 1989

Vote: 7-0-1 (SAED/SENG not represented)
Background statement: The Graduate Studies Committee studied the types of courses allowed in the plan of study for advanced degrees at Cal Poly during the 1986-87 academic year. In December 1986, it unanimously adopted the following motion:

By Fall 1988, all courses acceptable in a master’s degree program will be at the 400 level or above. Until that time, 300 level courses will be acceptable only with the approval of the graduate adviser, the department, the school dean, and the Graduate Studies Office. Such exceptions will be considered case by case.

The Academic Senate Curriculum Committee has considered the motion and the current situations which exist in various graduate programs and endorses the fact that a graduate program should be designed for advanced study. However, we do realize that some graduate programs may have a number of qualified students with diverse backgrounds applying for graduate study and that these students may be without certain types of experiences necessary for success in those programs. It is in this context that we propose the following resolution.

AS-____-89/____

RESOLUTION ON GRADUATE PROGRAMS

WHEREAS, The Graduate Studies Committee in 1986 recommended limiting credit towards a graduate degree to courses at the 400 level and above; and

WHEREAS, A minimum of 45 quarter units are necessary for a graduate degree; and

WHEREAS, In accordance with Title 5, a minimum of 50 percent of all units are required for the master’s degree at the 500 level; and

WHEREAS, Most graduate programs at Cal Poly already specify in their curricula that only 400- and 500-level courses may be included in the graduate plan of study; and

WHEREAS, 300-level courses are defined in the University catalog as being primarily for advanced undergraduate students, generally bearing no graduate degree credit (1988-90 catalog, p. 390); and

WHEREAS, The Academic Senate Curriculum Committee agrees with the motion of the Graduate Studies Committee; therefore, be it
RESOLVED: That the Academic Senate concur with the motion of the Graduate Studies Committee such that it will be University policy that only 400- and 500-level courses be allowed in the 45 units of an approved graduate plan of study; and be it further

RESOLVED: That in those programs where specific 300-level courses may be essential for a student's success in that program, that the student may be conditionally accepted to the program contingent upon completing those 300-level courses and if s/he fulfills all other requirements for acceptance to the advanced degree program, but that those 300-level courses will not constitute any part of the approved 45 units in the plan of graduate study; and be it further

RESOLVED: That when more than 45 units are required for the degree, in unusual circumstances, upon written justification, with the approval of the school dean and the University Director of Graduate Studies, limited courses may be substituted at the nongraduate level for those required beyond the base 45 units; and be it further

RESOLVED: That this plan be fully implemented by Fall 1989; and be it further

RESOLVED: That students currently in master's degree programs who have been given formal approval before June 1989 to include 300-level courses in their graduate plans of study will have those agreements honored but that students entering graduate programs after June 1989 must complete study plans consistent with the new requirement.

Proposed By:
Academic Senate
Curriculum Committee
February 2, 1989

Vote: 7-0-0 (SAED and SENG not represented)
MEMORANDUM

To: Academic Senators

From: Charles T. Andrews, Chair

Subject: Addition to February 21 Agenda

Date: February 16, 1989

Copies: J Culver
        B Rife
        M Wilson

Please review the attached and be prepared to act on the acceptability of the proposal, including recommending changes.

This action has been requested by Ray Giegle, Chair of the Academic Senate CSU, to provide guidance to the Academic Senate CSU when it acts on March 2-3.

Thank you for your patience on this "sudden" need.

Attachment
MEMORANDUM

TO: Chairs, Campus Academic Senates
FROM: Ray Geigle, Chair
       Academic Senate CSU

SUBJECT: GENERAL EDUCATION TRANSFER CURRICULUM

At its January 5-6, 1989 meeting, the Academic Affairs Committee of the Academic Senate CSU, introduced senate resolution AS-1842-89/AA, "Support of the General Education Transfer Curriculum".

You should have received a copy of that resolution last week when the Senate mailed out its regular resolution packet reflecting actions taken at its January 5-6 meeting. However we felt it important to bring it to your attention again since revisions were made in language regarding the various subject areas (see pp. 4-9).

If you have any questions, please feel free to call me at 213 - 590-5578 or 590-5550 (ATSS 635-5578/5550); or call Dr. Nancy Carmichael, the Senate chair of the G.E. Committee at 619 - 594-5397 or 594-5354.

The statewide Academic Senate will take action on this resolution at its March 2-3, 1989 meeting.

cc: Dr. Nancy Carmichael
ACADEMIC SENATE of THE CALIFORNIA STATE UNIVERSITY

Support of the General Education Transfer Curriculum

WHEREAS, Approximately 65% percent of undergraduates in the California State University are transfer students; and

WHEREAS, The Academic Senate of the California State University agrees that transfer between institutions must be facilitated; and

WHEREAS, The Academic Senate CSU has endorsed the concept of an intersegmental general education transfer curriculum which includes baccalaureate courses acceptable for transfer among all segments of public postsecondary education; therefore be it

RESOLVED: That the Academic Senate of the California State University accept a 37-unit general education transfer curriculum of which 31 units are common to all three segments of public postsecondary education and 6 units are specific to the California State University, as described in the document entitled "General Education Transfer Curriculum And The California State University (January 6, 1989)"; and be it further

RESOLVED: That the Academic Senate CSU strongly urge the Intersegmental Committee of the Academic Senates to meet the access and equity principles espoused by the Commission for the Review of the Master Plan for Higher Education through the adoption of common policies to implement transfer and certification; and be it further

RESOLVED: That the Academic Senate CSU recommend to the Intersegmental Committee of the Academic Senates that the General Education Transfer Program as adopted by all three segments be reviewed every five years.

SECOND READING March 2-3, 1989
January 6, 1989

GENERAL EDUCATION TRANSFER CURRICULUM
AND THE CALIFORNIA STATE UNIVERSITY

Executive Order No. 338 on General Education Breadth Requirements was issued on November 1, 1980, after considerable consultation, vigorous debate, and thorough involvement of the faculty of the California State University. It has been the position of the Academic Senate CSU and the local senates that the General Education requirements now in place are sound, excellent, and exemplary, and that no important feature or component of these requirements should be compromised. This position has been successfully maintained throughout intersegmental negotiations toward a common General Education Transfer Curriculum. The 31+6 unit proposal* fits entirely within the minimum 48-semester units prescribed by E.O. 338.

It is the intention of the General Education Breadth Advisory Committee that E.O. 338 remain in place. Because it requires more than the proposed General Education Transfer Curriculum (GETC), the relationship between the two needs to be clarified. E.O. 338 requires a General Education program of a minimum of 48 semester units. The GETC proposed here does not address or affect either CSU upper division unit requirements or CSU units beyond the 37 proposed. Nine of the minimum 48 units must be taken in upper division courses after the student has reached upper division status. A parallel requirement is that at least nine of the minimum 48 units must be taken at the CSU campus granting the degree. As the 37 unit GETC includes only 31 units common for the CCC, CSU and UC, plus 6 CSU-specific units, a minimum of 11 units (9 of them upper division) remains to satisfy CSU G.E. requirements for graduation.

* Of February 29, 1988, amending the proposal of November 12, 1987
The history of, rationale for, and purposes of the proposed GEIC is important in understanding the structure of the proposal. A substantial number of CSU graduates do not take their lower division general education programs in the CSU; most CSU students transfer from Community Colleges. In 1986, 53% of CSU graduates had transferred from Community Colleges. On the other hand, in 1985-86 only 17.3% of California Community College students transferred to the CSU. This low transfer rate places California near the bottom number of states nationally in the proportion of its population completing bachelor's degrees.

The Academic Senates of the University of California, the California State University, and California Community Colleges responded early and quickly to the concerns about transfer raised by the Legislature and the Commission to Review the Master Plan. California faculty share fundamental convictions about the purposes of General Education. General Education should develop students' abilities to think; general education courses should not merely transmit information, but should require analysis, criticism, and synthesis. One of the most effective tools for achieving these goals is the written essay, evaluated with attention to the quality of its writing as well as the accuracy of its content, and, as appropriate, general education courses should require significant amounts of writing. In addition, speaking, listening, and reading are important skills that general education courses should foster. Participation in the intellectual and cultural life of our society requires ability in verbal communication of all kinds.

Courses in the transfer curriculum should be culturally broad in their conception. They should help students understand the nature and richness of human culture and social structures through a comparative approach and have a pronounced historical perspective. They should recognize the contributions to knowledge, civilization, and society that have been made by women and members of minority groups.
Similarly, one of the most useful things that students should get from their
general education is an understanding of the modes of inquiry that characterize
the different areas of human thought: the nature of the questions that can be
addressed, the way questions are formulated, the way analysis is conducted,
and the validity and implications of the answers obtained.

General education should be intellectually challenging; indeed, it must be to
do a responsible job of preparing students for entry into the upper division
of our demanding four-year institutions and for full participation in the life
of the state. It is equally clear that participation in such a curriculum
itself requires adequate preparation. General education builds upon adequate
high school preparation, and poor preparation may require students to take
remedial courses prior to entry into the transfer curriculum.

Both the State University and the University have a specific American Institu­
tions requirement that is separate from their general education requirements.
Completion of the General Education Transfer Curriculum will not satisfy those
requirements. Similarly, general education requirements are separate from
lower division requirements for the major. Students pursuing majors that
require extensive lower division preparation may not find the General Education
Transfer Curriculum option to be advantageous.¹

All courses offered towards satisfaction of the requirements of the General
Education Transfer Curriculum must be baccalaureate in level² and must be

¹ A General Education transfer curriculum for high prerequisite majors is
under development.

² AS-1719-87/AA, "Guidelines For Determining Baccalaureate-Level Coursework."
acceptable for transfer among all segments of public post-secondary education. Advanced Placement credit that is considered equivalent to a course accepted for credit towards the Transfer Curriculum should also be acceptable. The following requirements are listed in terms of the number of courses specified for each designated area and the minimum number of semester and quarter units so represented. Coursework in all areas must add up to a minimum of 37 semester or 56 quarter units. ³

Subject Area: English Communication
(3 courses; 9 semester, 12-15 quarter units)

The English Communication requirement shall be fulfilled by completion of three semesters or nine units of lower division courses in English reading and written composition (1 course), oral communication (1 course), and critical thinking (1 course). Regardless of the primary content objectives of courses included in this area, each course must devote a substantial amount of activity to written/compositional. Each course shall include a substantial amount of written work appropriate to the course content and the discipline in which the course is taught. Courses in this area shall include close analysis of a variety of representative texts.

Instruction approved for fulfillment of the requirement in communication is to be designed to emphasize the content of communication as well as the form and should provide an understanding of the psychological basis and the social significance of communication, including how communication operates in various situations. Applicable course(s) should view

³ The CSU requirements for nine units of upper division G.E. coursework and for a total of 48 semester units (72 quarter units) in the General Education program are not changed by the transfer curriculum.
communication as the process of human symbolic interaction focusing on
the communicative process from the rhetorical perspective: reasoning and
advocacy, organization, accuracy; the discovery, critical evaluation and
reporting of information: reading and listening effectively as well as
speaking and writing. This must include active participation and practice
in written communication and oral communication.

Instruction in critical thinking is to be designed to achieve an under­
standing of the relationship of language to logic, which should lead to
the ability to analyze, criticize, and advocate ideas, to reason
inductively and deductively, and to teach/factual/judgmental
conclusions/based/on/truth/interference/drawn/from/unavoidable/statements
of/knowledge/ded/t/identify the assumptions upon which particular
conclusions depend. The minimal competence to be expected at the
successful conclusion of instruction in critical thinking should be the
ability to distinguish fact from judgment, and belief from knowledge,
and/skill/1A to use elementary inductive and deductive processes,
including/an/understanding/of/the/factual/and/Infallible and to recognize
common logical errors or fallacies of language and thought.

Subject Area: Mathematical Concepts and Quantitative Reasoning
(1 course; 3 semester, 4-5 quarter units)

The Mathematical Concepts and Quantitative Reasoning requirement shall be
fulfilled by completion of a one-semester, three-unit course in mathematics
or/subject/mathematics or/subject/statistics (above the level of intermediate algebra,
with a stated course prerequisite equivalent to three years of college
preparatory mathematics). Courses/subject/mathematics/application/69/subject/statistics/70
particular/subject/disciplines/day/subject/use/subject/requirement/
An appropriate course in statistics must emphasize the mathematical bases of statistics, probability theory and estimation, application and interpretation, uses and misuses, and the analysis and criticism of statistical arguments in public discourse.

Because knowledge relevant to public and private decision making is expressed frequently in quantitative terms, we are routinely confronted with a variety of information requiring quantitative analysis, calculation, preparation, and the ability to use and criticize quantitative arguments. In addition, many disciplines require a sound foundation in mathematical concepts. The requirement in Mathematical Concepts and Quantitative Reasoning is designed to prepare students to respond effectively to these challenges.

Subject Area: Arts and Humanities
(at least 3 courses; 9 semester, 12-15 quarter units)

The Arts and Humanities requirement shall be fulfilled by completion of at least three courses which encourage students to analyze and appreciate works of philosophical, historical, literary, aesthetic and cultural importance. Coursework should provide students with an understanding of major civilizations and cultures, both Western and non-Western, and with an understanding of the contributions and perspectives of women and of ethnic and other minorities. In the Arts, students should also learn to develop an independent and critical aesthetic perspective.
At least one course shall be completed in the Arts and one in the Humanities. Within the arts area, performance and studio classes may be credited toward satisfaction of this subject area if they emphasize the integration of history, theory, and criticism.

The Arts and Humanities historically constitute the heart of a liberal arts general education because of the fundamental humanizing perspective that they provide for the development of the whole person. Our understanding of the world is fundamentally advanced through the study of Western and non-Western philosophy, language, literature, and the fine arts. Inclusion of the contributions and perspectives of women and of ethnic and other minorities as part of such study will provide us a more complete and accurate view of the world and will enrich our lives.
Subject Area: Social and Behavioral Sciences
(at least 3 courses; 9 semester, 12-15 quarter units)

The Social and Behavioral Sciences requirement shall be fulfilled by completion of at least three courses dealing with individual behavior and with human social, political, and economic institutions and behavior in a minimum of two disciplines or in an interdisciplinary sequence. The pattern of coursework completed should ensure that students develop understanding of the perspectives and methods of the social and behavioral sciences. Problems and issues in these areas should be examined in their contemporary, historical, and geographical settings. Coursework in this area should include the contributions and perspectives of women and of ethnic and other minorities and should present a comparative perspective on both Western and non-Western societies. The material should be presented from a theoretical point of view and focus on core concepts and methods of the discipline rather than on personal, practical, or applied aspects. Courses used to satisfy the United States History, Constitution and American Ideals requirement (Title 5, Section 40404) may not be counted in this area.

Courses in the Social and Behavioral Sciences allow students to gain a basic knowledge of the cultural and social organizations in which they exist as well as the behavior and social organizations of other human societies. Each of us is born into, lives, and must function effectively within an environment that includes other individuals. People have, from earliest times, formed social and cultural groups that constitute the
framework for the behavior of the individual as well as the group. By taking content in the social and behavioral sciences, students will gain a basic knowledge of the cultural, behavioral, and social organizations in which they exist as well as the cultural, behavioral, and social organizations of other human societies. Inclusion of the contributions and perspectives of women and of ethnic and other minorities as part of such study will provide us a more complete and accurate view of the world and will enrich our lives.

Subject Area: Physical and Biological Sciences
(at least 2 courses; 7-9 semester, 9-12 quarter units)

The Physical and Biological Sciences requirement shall be fulfilled by completion of at least two courses, one of which is in Physical Science and one in Biological Science, at least one of which incorporates a laboratory. Courses must emphasize experimental methodology, the testing of hypotheses, and the power of systematic questioning, rather than only the recall of facts. Courses that emphasize the interdependency of the sciences are especially appropriate for non-science majors.

The contemporary world is profoundly influenced by science and its applications, and many of the most difficult choices facing individuals and institutions concern the intricate relationship of scientific and technological capability with human values and social goals. To function effectively in such a complex world, students must develop a comprehension of the basic concepts of physical and biological sciences, and a sophisticated understanding of science as a human endeavor, including the limitations as well as the power of scientific inquiry.
OASIS:
A JOINT ADMINISTRATIVE COMPUTING PROJECT

IBM, INFORMATION ASSOCIATES
AND
THE CALIFORNIA STATE UNIVERSITY

CAL POLY FACULTY SENATE
FEBRUARY 21, 1989
ADMINISTRATIVE COMPUTING ENVIRONMENT
1986

• OLD TECHNOLOGY
  - CDC Cyber 700/800
  - NOS/TAF
  - Batch Operation
  - Limited 4GL Tools / INFOFETCH & QUERY
  - NOS/VE Conversion Required

• NON-INTEGRATED SYSTEMS
  - SIMS/CDPS
  - IBS (IA's modified FAS)
  - Campus Specific
A Consulting Firm's* View of CSU Administrative Computing

- Cyber computers
- CSU-developed and maintained systems
- Campus-to-campus variations
- Systems that
  - lack integration
  - are difficult to update and maintain
  - fail to automate basic functions
  - are poorly documented
  - are poorly supported

*From Price-Waterhouse, CSU Aims Project Report
CHRONOLOGY

CSU AIMS Project
(Administrative Information Management System)

March 1983 Initial Planning
October 1983 Planning Budget Request
January 1984 Plan for the Plan Requested
February 1984 Plan for Planning Reviewed
May 1984 Plan for Consultant Requested
July 1984 Consultant Plan Approved and RFP Issued

November 1984 Consultant Selected
September 1985 AIMS Implementation Plan Completed
October 1985 Budget Submitted to State
January 1986 AIMS Budget Line Item Removed
January 1986 to December 1986 Continued Attempts to Come to Resolution
December 1986 Project Deemed Unacceptable

Other Alternatives Explored
AIMS Project
- Not Funded -

December 1986

A Search for Alternatives

A Cooperative Research and Development Project

The OASIS Project
(A Successful Approach for Three CSU Campuses)
OASIS:

A

Comprehensive Partnership

The California State University

CSU Long Beach
CSU Los Angeles
Cal Poly - SLO

The IBM Corporation
General Products Division
ACIS

Information Associates
OASIS: "Limited" Integrated Approach

Decision Support System (ESS)

Student Information System

IBS/FRS

Z* Control CICS

Human Resources System

Alumni Development System

End User Productivity Tools (4GLS)

OTHER RELATED SYSTEMS*

PROFS LANS

*CASHIERING
VOICE RESPONSE REGISTRATION
FACILITIES MANAGEMENT, ETC.
OASIS OPPORTUNITIES - Continued

- Functionality -

Environment Encompassing AIMS Baseline Processes

Student Management
  Academic Evaluations
  Admissions
  Financial Aid (including Packaging)
  Registration (including Voice Response)
  Student Records

Curricula Management
  Course Scheduling

Facilities Management
  Course and Event Facilities Scheduling

Financial Management
  Cashiering
  Billing/Receivables

Other
  Extended Education
  Outreach
  Health/Housing (interfaces)
  Chancellor's Office Reporting (interfaces)
  Special Student Services (partial)
PROS and CONS

CAMPUS BENEFITS:

- Improved Service Levels - Student / Staff / Faculty
- Improved Staff Productivity
- Revenue Generation
- Cost Management
- Enrollment Management
VOICE RESPONSE REGISTRATION (VRR)

- An easier and more cost-effective method for registration, add/drop, class confirmation, demand visibility & enrollment control

- More effective utilization of faculty and classroom availability by dynamic balancing of supply vs. demand

- Provides the means to effect control over registration priority and metering

- Extends the time for registration

- Improves services to students (e.g. instant status on cancelled courses)

- Opens the way for future capabilities such as course blocking & reservation, payment by phone, prerequisite checking, grade data, etc.

- Ensures payment of fees and other conditions are met prior to registration
The OASIS Project

Two Phases

IA 's Student Information System (SIS)

Phase 1 - On Schedule

Installation of SIS - VSAM Version

- Mainframe environment
- Related applications

Phase 2 - About to Begin

Implementation of SIS - DB2 Version

- Functional design, analysis and prototyping
- Beta testing
- Conversion aid - VSAM to DB2
- Production test
OASIS2

Equipment/Software Configuration

4 - IBM 3480s

IBM 3090
180 - 400S

IBM 3380s - 80 GIGS

IBM PRINTERS

IBM PRINTERS

IBM 7171

IBM 3725

IBM 3745

OPERATING SYSTEMS
VM - XA
MVS - XA
CICS
RAC-F
DB2
AIX

APPLICATION SYSTEMS
SIS
FRS
HRS
ADS
INGRES

USER TOOLS
PROFS
FOCUS
ESS/LAN
Achieving Full Integration for Campuswide Administrative Computing

AIMS Project
(Not Funded)

Search for Solution

The OASIS Project
(A Successful Approach for Three CSU Campuses)

Integrated Approach

OASIS2
(A Potential Solution for Five CSU Campuses)
OASIS2:
Proposal for
A Fully Integrated DB2-Based Administrative Solution

An Expanded Cooperative Research Project: Strengthening A Partnership in Higher Education

Between

CSU Long Beach
CSU Los Angeles
San Diego State University
San Jose State University
Cal Poly, San Luis Obispo
IBM
Information Associates (IA)
Administrative Computing: The Integrated Approach

Decision Support System (ESS)

- Student Information System
- Financial Resources System
- Human Resources System
- Alumni Development System

Relational Database (DB2)

End User Productivity Tools (4GLS)

OTHER RELATED SYSTEMS*

O.A. PROFS LANS FILE SERVER

OASIS2 Approximates Original AIMS Concept

*CASHIERING
VOICE RESPONSE REGISTRATION
FACILITIES MANAGEMENT, ETC.
OASIS2:
A "WIN-WIN" EFFORT

CSU

• Fully integrated administrative computing environment at least cost

• Instructional access to state-of-the-art relational database environment

• Achieve AIMS Target Environment (Prototype)

IBM and IA

• Integrated information management solution for higher education, point-of-sale to executive workstation

• Upgrade/migration path for existing sites

• State-of-the-art relational database product

• Multiple database solutions (IDMS, DB2)
Computing in Transition
from
Equipment-centered Environment
to
User-Centered Environment

User

Computer Center

User

User

User

User

Peer Workstations

Departmental Systems

Data Server

National Networks

User

Shared Minis

Library Automation

Vector Processors

Shared Mainframes
Administrative Computing Issues

- User Proliferation and Dispersal
- Importance of User Support
- User Sophistication and Independence
- Tendency toward Departmental Applications
- Need for Decentralized Support Groups
- Emergence of Functional Specialist
## IBM COSTING MODEL

<table>
<thead>
<tr>
<th>IBM Model</th>
<th>MIPS</th>
<th>Value</th>
<th>Campus Cost</th>
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</thead>
<tbody>
<tr>
<td>3081 - KX</td>
<td>15.5</td>
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<td>3090 - 400ES</td>
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* IBM - Academic Computing Information Systems (ACIS) will double our base requirement of 51% instructional research
5-YEAR PRELIMINARY CASH FLOW

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<table>
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<tr>
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<tr>
<td>CYBER</td>
<td>$500K / year</td>
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<td>$200K / year</td>
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</tbody>
</table>

$700K / year x 5 years = $3.5 million
Currently Recommend IBM 3090 - 400S
Campus Cost $5.0 million
Shortfall ($1.5 million)

Exploratory Sources
* Internal IBM GPD
* Chancellor's Office
  - AMSPEC
  - San Marcos Campus