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

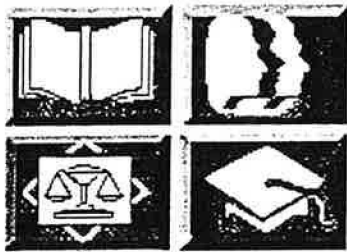
Academic Senate Executive Committee
Tuesday, February 4, 1997
UU 220, 3:00-5:00pm

1.7.97
minutes
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- I. Minutes: Approval of the January 7, 1997 Executive Committee meeting (pp. 2-3).
- II. Communication(s) and Announcement(s):
- III. Reports:
 - A. Academic Senate Chair:
 - B. President's Office:
 - C. Provost's Office:
 - D. Statewide Senators:
 - E. CFA Campus President:
 - F. Staff Council representative:
 - G. ASI representatives:
 - H. IACC representative:
 - I. Athletics Governing Board representative:
 - J. Other:
- IV. Consent Agenda:
- V. Business Item(s):
- VI. Discussion Item(s):

The "Cornerstones" Project and "Review of the Baccalaureate in the California State University": The purpose of this meeting is to provide information to the Executive Committee and the faculty attending February's Monterey conference regarding the above named matters currently being examined by the statewide Academic Senate. These studies will be agenda items for discussion at the Monterey conference (pp. 4-18).

For those who have access to the World Wide Web, fuller documentation on the above two items can be read at the following site: <http://www.calstate.edu/acsenate/> (choose "Issues", then "Cornerstones" or "Baccalaureate").
- VII. Adjournment:



CORNERSTONES

Planning for the Next Decade



What Is Cornerstones?

The CSU is undertaking a major systemwide strategic planning initiative, known as Cornerstones. Cornerstones was stimulated in part by the Association of Governing Boards and the Pew Trusts Higher Education Round Table. These associations have a national roundtable effort to model discussions about planning and reframing higher education for the future. They requested that CSU participate in this effort to be the first national experiment in public, multicampus system planning involving trustees and faculty in deliberations about future plans and decisions. The purpose is to generate concrete steps to meet the challenges of the next decade. The organizing principle is that the CSU has made four non-negotiable commitments-- these are the university's four "cornerstones":

- First, we have promised the highest standards of undergraduate education. We must define what the public can expect from a CSU education: what we expect our graduates to have learned and how we will assess that learning.
- Second, we have promised to meet the demand for higher education in California with the available resources.
- Third, we are answerable to the people of California, and accountable for our performance.
- Fourth, we have a non-negotiable commitment to serve the changing educational needs of the state and its people.

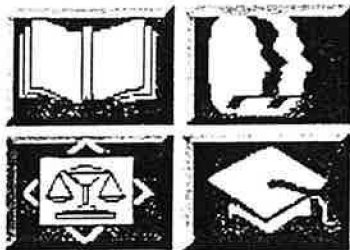
Over the next two years, we will answer how, not whether, we can make good on these commitments. The Cornerstones project has two dimensions: the work of a small group, and the broader involvement of the CSU community and the public. Working in tandem, these two processes will produce policy recommendations around each of the University's four cornerstones.

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CORNERSTONES

Planning for the Next Decade



Goals of Cornerstones

We have started by identifying the broadest objectives for the initiative:

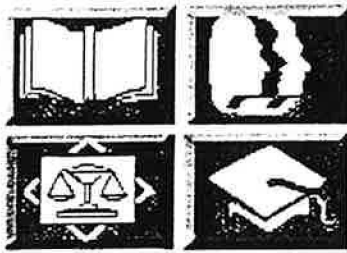
- To clarify long-term "system" goals for the CSU through the year 2005, to ensure a commitment to central defining characteristics of the CSU that will become the basis for detailed planning.
- To develop plans to show the state and its citizens how CSU intends to achieve its primary goals regarding the substance of a CSU education, enrollment and financing, the organization of delivery of education, the integration of technology into the institution, the fostering of innovation and decentralization of the system.
- To combine a public dialog about the future of the CSU with a task-oriented process, to ensure that the change management process is accessible and open, and leads to choices.
- To explore the contribution and implications of seeking truly differentiated campus identities within a state system, thus better defining the process through which individual campus identities are framed and decentralization is balanced with statewide commitments.
- To improve the internal consultative and decision-making capacity of the CSU by strengthening the capacity of the Board of Trustees to provide leadership and remain accountable for publicly recognized objectives and purposes by integrating faculty, presidential, and student involvement in the planning process.

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CORNERSTONES

Planning for the Next Decade



Organization of the Work

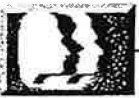
The Cornerstones group is composed of twenty-four members representing trustees, faculty, students, presidents, and senior system administrators. The group will be facilitated and led by Thomas Ehrlich, CSU Distinguished Scholar. He will be supported by a core staff of three individuals: Charles Lindahl, Interim Vice Chancellor for Academic Affairs, and Brian Murphy and Jane Wellman, Special Assistants for Planning to the Chancellor.

Much of the early work will be done by the four Cornerstones task forces. The task forces are organized around the four non-negotiable commitments of the CSU. Each includes members of Cornerstones and partners from the broader CSU community and beyond. The four task forces are:



Learning for the 21st Century

Chair: Jim Highsmith



Meeting the Enrollment and Resource Challenge

Chair: Molly Corbett Broad



Institutional Integrity, Performance, and Accountability

Chair: Bernie Goldstein



Postbaccalaureate and Continuing Education: Helping Shape California's Future

Chair: Stephen Weber

Check out each task force home page by clicking on the icons

The task forces are required to submit draft reports by February 1997. These reports will launch the significant public consultation process that will begin in the spring.

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Executive Committee Extrapolation of Issues on Structure
(work in progress)

ACADEMIC SENATE
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Review of the Baccalaureate in the California State University

3 *The Structure of the Baccalaureate Degree.*

The structure of the baccalaureate should derive centrally from the purpose and content of the baccalaureate. [need more here]

3.1 *Quality in the Baccalaureate Degree program .*

In reviewing and contemplating changes in the baccalaureate degree, the first consideration should be for the quality of the degree. The California State University owes to its students and the citizens of the state the highest possible level of quality in the educational process. Currently, quality is assured through external and internal processes. Both will, and should, continue in the future.

Externally, each CSU campus is accredited by the Western Association of Schools and Colleges, based on standard criteria of quality that are applied to all baccalaureate-granting institutions. Similarly, many programs, especially professional programs, are or can be accredited by national agencies, based on criteria of quality applied to all such programs nationwide. We shall seriously disadvantage our students if we revise the baccalaureate without regard to accrediting criteria. By the same token, however, the processes of accreditation are created by and their criteria developed by agencies that include or potentially include, the participation of CSU faculty and administration. Given its size and influence, the CSU can play a significant role in the deliberations of accrediting agencies. If, after careful deliberation by the faculty, administration, and Trustees, it seems appropriate to develop new approaches to the baccalaureate that are in conflict with current accrediting standards, the areas of conflict should be explored carefully by both the CSU and the accrediting agencies with an eye to simultaneously protecting quality and encouraging innovation.

Internally, the faculty, because of their specialized knowledge, are the primary decision-makers regarding the curriculum — the faculty develop and offer courses, the faculty determine the requirements for general education and majors, the faculty set the qualitative standards and criteria for teaching the curriculum, the faculty evaluate and recommend regarding the fitness of those who teach the curriculum, and the faculty determine when students are qualified to receive the baccalaureate. This process takes place within departments and campus academic senates and is symbolized by the announcement at all commencement ceremonies that the faculty have recommended the award of the degrees. This internal process must continue. The faculty, by virtue of their specialized knowledge, must be the foremost judges of the quality of the baccalaureate.

Issue:	<i>What do we mean by "quality" in the context of a baccalaureate degree program? How can/should "quality" be measured? Should quality be diminished, and to what extent, if that is the only way to provide the broad access to higher education envisioned in the state Master Plan?</i>
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3.2 *Competencies and Learning Outcomes*

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Executive Committee Extrapolation of Issues on Structure
(work in progress)

Faculty today, for the most part, describe anticipated student learning in terms of course content, i.e., the ubiquitous course outline. This leads to what many regard as a teaching-centered approach to baccalaureate instruction. Put most simply, students learn what faculty teach.
[need background here]

Issue: *Should teaching-centered approaches to instruction and learning continue as the dominant mode or should student learning be reconceptualized in terms of competencies and learning outcomes?*

3.3 Meeting the Needs of Today's Students.

3.3.1 Baccalaureate Degree Patterns

Recently, discussion of the baccalaureate has included a focus on "years to degree." Some believe that the four-year, 120-unit baccalaureate degree is an artifact of another place and time, no longer compatible with the realities of our student's lives. A college education is no longer the prerequisite to the life of an educated adult, but an on-going and recurring part of that life. We should expect that most people will be consumers of continuing education for very practical reasons — the rate of change in a high-tech era is very rapid. Some skills (e.g., reading, writing, calculating, reasoning) remain constant, but people will need to acquire new skills, to change the way they do things, to put themselves more permanently in an adaptive mode.

We already live in a time when our graduates wonder how their parents and grandparents managed to endure a single-career or a single job over an entire working lifetime. It is clear that there will be vastly different educational patterns arising from the needs of this new environment. Perhaps we need to imagine a degree one builds upon, expandable in various ways, depending on the shifting needs of the individual. The concept is akin to the notion of expanding a house to accommodate new arrivals and new interests. You start with a foundation and several basic rooms, but then you begin to add to it.

A foundation degree might consist of a combination of common core courses, i.e., general education, plus studies in depth, either discipline-based or interdisciplinary. As graduates gain workplace or life experiences that motivate further educational needs, they may wish to expand the foundation degree with additional courses, programs, and studies at various times throughout their lives. On that basis, one could conceive of a set of degree models, articulated here in "levels" equivalent to a year of full-time study.

1. The General Baccalaureate

- Common General Education core (levels 1 and 2)
- Disciplinary or interdisciplinary studies in depth (level 3)
- This would be the foundation degree. For some students, it would be sufficient. Many students currently come to the CSU because they recognize that they need a solid liberal arts or sciences foundation. If, later in life, they wish to add to this foundation, they could do so in a number of ways and in a variety of settings.

2. The Specialized Baccalaureate

- Common General Education core (levels 1 and 2)
- Disciplinary or interdisciplinary studies in depth in one or two fields (levels 3 and 4)
- This degree could build off the General Baccalaureate by adding a year of concentrated study in a field or fields and would be especially well-suited for students intending to

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pursue graduate studies in the liberal arts or sciences, or for students planning to eventually continue their education in professional schools such as law, or business.

3. The Technical Baccalaureate

- Common General Education core (levels 1 and 2)
- Disciplinary or interdisciplinary studies in depth in one or two fields (levels 3 and 4)
- Advanced "applied" study (levels 5 or 6)
- This degree would build off the Specialized Baccalaureate by adding one or two years of applied study for students pursuing first-level professional qualifications or credentials in fields such as engineering, occupational therapy, or education.

Issue:	<i>Given the vast increase in the past half-century in the numbers and kinds of students engaged in higher education, is the four-year, 120 unit baccalaureate appropriate for all students? Should we consider offering degrees (perhaps not called baccalaureates) with lesser or greater requirements to fit different student needs including continuing education?</i>
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3.3.2 Breadth and depth,

Traditionally, the structure of the baccalaureate has included three elements: breadth requirements, usually in the form of structured electives (i.e., general education distribution requirements), depth requirements that involve both choice and specified requirements (i.e., the major, tracks or concentrations within the major, and, perhaps, a minor), and additional opportunities for breadth or depth in the form of free electives not a part of either the general education program or the major and minor.

The major was intended to develop in the student a depth of specialized knowledge and a mastery of specialized skills which prepare the student for employment or advanced study. Study in breadth, usually in the form of a general education program, involves structured choices of courses within particular domains of knowledge in such a way as to produce that result long cited in commencement ceremonies, preparation to join the company of educated men and women. Both were regarded as of equal importance. Each reinforced the other. Both created a sense of self-awareness, self-respect, and accomplishment. The actual structure of both came from the best judgment of the faculty operating within the constraints posed by outside accrediting agencies and other outside constituencies, by resources, and by the prior preparation of the students.

Issue:	<i>Should the baccalaureate continue to include specifically identified and structured elements for breadth and depth? If so, should the elements of breadth and depth be better integrated? How might this occur?</i>
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[need background here]

Issue:	<i>Given projected enrollment demands and the availability of resources, should the CSU encourage or require that transfer students complete most, if not all, their lower-division general education at their community colleges.</i>
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3.3.3 Requirements and Choices.

Traditionally, students have had a range of choice within the baccalaureate program, i.e., choices within general education, a choice of majors and minors, choices within majors and minors, and

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opportunities to pursue some coursework completely outside those structured choices. Such choice has allowed students to exercise judgment as they select the courses through which they explore new areas of knowledge, gain new perspectives, and, perhaps, make mistakes.

Some off-campus constituencies, especially specialized accrediting agencies, have stressed ever larger numbers of units in major programs for certification and employment. The general education program has also grown over recent decades, as more components have been identified as important for educational breadth. Thus, where the ideal balance among the three components of breadth, depth, and electives, was once seen as roughly even, the reality has changed dramatically. Over the past half-century, students have come to have fewer opportunities to choose free electives, and students in some majors have lost all opportunity to do so. While this diminution of choice is widely seen as undesirable, any reversal seems impossible without a radical restructuring of the baccalaureate, either by making the entire degree larger, or by imposing rigid limits on the size of majors, or by agreeing to reduced expectations for general education — all alternatives generally viewed as even less desirable.

Issue:	<i>Should limitations be placed upon the proportions of the baccalaureate devoted to breadth and depth, so as to provide students with meaningful free elective opportunities?</i>
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3.3.4 Calendars, Course Scheduling, and Academic Support Services

Students in the CSU present a wide range of life-styles. Relatively few of them fit the traditional model of a fully-committed undergraduate student, i.e., living on campus, enrolling in five or more classes every semester, taking part in on-campus activities, and perhaps working a few hours per week on campus. Most CSU students are quite different. They live off campus, some with their parents, some with their own families or partners. Rather than having their college financed by their parents, many of them not only are responsible for their own college expenses but must also contribute to their family's income. Most of them work more hours than they attend classes each week, and many work full time. Many of them take no part in campus activities but may participate in community activities. Many of them register for less than full-time status and for even as little as a single class per semester.

In the traditional model, learning is at the center of the student's college years. In the CSU, however, learning may be on the periphery and a student's life may be centered instead on work and family. The urban, commuter university has been likened to a fast-food facility; students drive up, attend class, then immediately return to their busy, real lives. In traditional, residential, private colleges, the full-time learners nearly all complete their baccalaureates in four years. In the CSU, with its many part-time students, completion of the baccalaureate may take five, six, or more years. Though they spend more years "in college," such part-time, commuter students may nonetheless fail to develop the values that usually come through an more intense, albeit shorter, educational experience at a residential university.

Issue:	<i>Should the baccalaureate degree and the organization of the university to provide Academic support services be altered to better accommodate the needs of these part-time students? If so, how?</i>
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[need background here]

Issue:	<i>Are there things in the "University of Phoenix" approach to higher education that the CSU should consider adopting? How, if at all, should the CSU attempt to differentiate itself and its baccalaureate programs from such commercial institutions?</i>
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3.4 Quantitative Measures of Learning; Units and Courses.

Heretofore, the structure of the baccalaureate has been described in terms of student accumulation of a sum of Carnegie Units that are distributed between depth (in a major and perhaps a minor) and breadth (as represented in general education and free electives). Originally defined largely in terms of time spent in lecture-recital classes in high school, Carnegie Units now measure a variety of learning modes and experiences, including lecture-recitation courses, activity in laboratories and studios, field work, independent study, and experiential learning. Through derivative formulae, Carnegie Units are now used to measure full-time equivalent students (FTES) and full-time equivalent faculty (FTEF). Thus, a system purported to measure what a student has learned is also used to measure and determine enrollments, employment, and hence associated budget levels. Concerns have been and will continue to be raised about measuring learning, enrollments, workload, and budget allocations all through the accumulation of Carnegie units.

However, agencies outside the CSU do and will continue to take an interest in the content, structure, quality, and significance of the baccalaureate, notably accrediting and certifying agencies, graduate and professional schools, employers, the state, and the general public. All of the outside agencies tend to stress total units and years to degree as central structural elements in their expectations for the baccalaureate, even as some of them have also developed standardized testing procedures (e.g., the GMAT, GRE, LSAT, MCAT, all for professional school applications, and the CBEST for teaching certification) intended to measure knowledge and skills against a common scale.

Issue:	<i>The set of "experiences" (knowledge, skills, and values) that collectively lead to a baccalaureate degree are measured in terms of Carnegie Units. Should the Carnegie Unit continue to be used as the quantitative measure of the baccalaureate or is another measure more appropriate? Should the "course" continue as the primary mode for packaging units or their replacement?</i>
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Issue:	<i>Should the accounting measures that are used to quantify enrollment, workload, and budget be decoupled from the fundamental unit of measure for learning?</i>
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3.5 Qualitative Measures of Learning; Assessment and Evaluation.

[Need background here]

Issue:	<i>The <u>assessment</u> of student learning (macro-level) and the <u>evaluation</u> of student learning performance (micro-level) are largely performed at the individual course-level. Should assessment and evaluation continue to be course-centered in all cases or should more comprehensive methods and measures be adopted? Is the answer the same for assessment and for evaluation?</i>
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3.6 Modes of Teaching and Learning.

3.6.1 The Diversity of Student Learning Styles

There are many modes of teaching and particular modes may be better suited for some purposes than for others. Individual students also learn in different ways, and modes that work for some, in realizing a particular purpose, may not work with similar effectiveness for others.

Over the course of completing a baccalaureate degree, students are exposed to a variety of modes of teaching and learning, ranging from formal lectures to small group interaction in seminars, laboratories,

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or studios, to faculty supervision of independent learning projects. Students are often provided opportunities to use different learning styles as well. At some point in their baccalaureate, most students have an opportunity for learning in a small-group setting that involves collaborative learning centered on core activities for the discipline — a research seminar, or a group research project in a laboratory, or a studio project that includes criticism by other students. This is most often currently realized through a capstone course, often an undergraduate seminar, in the major. The CSU rightfully prides itself on its current ability to provide such learning experiences for many, if not most, students.

The rapid growth of higher education in the last half century has vastly increased the diversity of the student body on many dimensions. Not the least of these involves a wider diversity of learning styles. All faculty would agree that instruction should resonate with the dominant student learning style or styles. However, with limited resources, it is not clear whether each course or learning objective within a course can or should be addressed through multiple modes of teaching designed to facilitate diverse learning styles.

Issue:	<i>Can/should teaching strategies facilitate <u>all</u> reasonable learning styles in addressing each learning objective, each course, and/or throughout the baccalaureate degree program?</i>
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3.6.2 The Role of Technology

Some argue that new instructional technologies require a radical rethinking of the concepts of location and time in the teaching-learning process. [need background here]

Issue:	<i>How important is proximate interaction between students and teachers, and between students and students in an individual course and across the entire baccalaureate? Can/should technology substitute for such proximate interaction?</i>
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3.7 The Baccalaureate in a Statewide system of Higher Education.

If the CSU, as a statewide institution, continues actively to define the purposes and content of the baccalaureate, then there should logically be some consistency in the structure of the baccalaureate throughout the CSU. [Need more background here]

Issue:	<i>To what extent should baccalaureate degree programs in the CSU contain common elements across disciplines and across campuses? What should these common elements be? Besides actual content, in what ways might baccalaureate degree programs differ between disciplines and campuses?</i>
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ACADEMIC SENATE
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THE CALIFORNIA STATE UNIVERSITY

Review of the Baccalaureate in the California State University

1 The Purpose of the Baccalaureate Degree.

The CSU baccalaureate builds upon the foundations established during elementary and secondary education. CSU undergraduate education provides its recipients with the advanced knowledge, skills, and understandings that are the mark of an educated persons and which are necessary for lifelong intellectual endeavor, for becoming productive members of society, for participating in democratic institutions and civil society, and with an introduction to the values and ethics appropriate for using knowledge and skills in ways that contribute positively to the community and the larger society.

1.1 Knowledge and skills appropriate for lifelong intellectual endeavor.

The CSU baccalaureate program provides graduates with the opportunity to develop the skills and acquire the breadth and depth of knowledge necessary to continue to learn throughout their lives. Graduates should be able to locate, evaluate, analyze, synthesize, and create information. They should be able to think critically, understand the scientific method, communicate their work effectively, and integrate and apply knowledge from various fields. The educational process prepares students to respect intellectual and cultural perspectives different from their own and engage in civil and rational discourse over such differences. They should be prepared to respond to and participate in change at many levels.

1.2 Knowledge and skills appropriate to becoming productive members of society.

The CSU baccalaureate program provides graduates with the knowledge, skills, and social perspective necessary to succeed in their chosen careers or in advanced study for a career. Graduates should be prepared to accept responsibility and to exercise initiative, creativity, leadership, and mature judgment. They should understand the value of appropriate technology and be prepared for future technological change. They should understand systems of merit and reward within a broader framework of ethics and social responsibility.

1.3 Knowledge and skills appropriate to participate in democratic decision-making processes and civil society.

The CSU baccalaureate program provides graduates with the preparation to participate fully and responsibly in decision-making processes and in civil society more generally. Graduates should possess an understanding of democratic institutions and values, and should understand their role in community responsibility and community service. They should possess a sense of self-awareness within a broader awareness of kinship with the human community in all its diversity. They should understand the nature of prejudice and discrimination and should reject stereotypic thinking.

1.4 Knowledge of values and ethics appropriate for using knowledge and skills in ways that contribute positively to the community and society.

Through their studies, CSU baccalaureate graduates will have been introduced to systems of values and ethics appropriate for their use of knowledge and skills in ways that contribute positively to their community and society. Through their baccalaureate experience, graduates should undergo a maturation resulting in a more developed sense of personal values and ethics, and a more reflective and universal perspective resulting in a sense of social responsibility.

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Review of the Baccalaureate in the California State University

2 The Content of the Baccalaureate Degree.

2.1 Entrance Expectations.

Academic programs leading to a baccalaureate degree build upon the learning and skills development that students acquire during their elementary and secondary education. College entrance expectations should be focused upon the determination of specific competencies possessed by students rather than merely broad certifications of course completion. The development of these competencies must be addressed early and reinforced throughout the secondary education experience. Furthermore, each of these entrance competencies should be raised to a higher level through the breadth component of the baccalaureate curriculum.

Entrance-level competencies for high school graduates should be determined in each of the following general areas. These competencies include both subject matter and skill acquisition.

1. English, comprehension and composition
2. Mathematics
3. Social science including history
4. Natural and physical science including laboratory experience
5. A second language
6. Visual and performing arts
7. Knowledge acquisition skills including information management and critical thinking
8. Computer literacy
9. Organization abilities including study habits and a level of self awareness concerning their goals as students.
10. A sense of tolerance and understanding of their relation to the world at large.

Intersegmental competency statements currently exist in English, mathematics, natural science and many languages other than English. These statements must be maintained at a current level and new statements should be developed in the other areas listed above. These standards should inform the curricular processes in secondary education. While college entrance-level competencies should generally exceed the standards for high school graduation, there should be a clear curricular relationship between the two. The need for remedial education among students otherwise eligible for college admission, although the result of varied and complex factors, is ample evidence of the need for better integration of the content of secondary and higher education.

The assessment of entrance-level competencies should ideally be based upon an appropriate mixture of formal examinations and the evaluation of "portfolios" containing evidence of competency attainment accumulated throughout the secondary experience. CSU faculty should collaborate with high school faculty in the development of competency assessment tools that encourage appropriate curricular evolution in the high schools.

2.2 The Content of the Baccalaureate

2.2.1 Introduction

The recipients of a baccalaureate degree should have achieved a university-level competency in the acquisition of information and knowledge, should perform tasks with a greater repertory of skills and qualities of mind, and should have a heightened sensitivity to themselves, to others, and to the world around them. And yet the balance between the universal characteristics of a baccalaureate education and the specific needs of individual students and the society at a particular point is subject to ongoing debate and discussion among academics and the general public. But we can agree that learning and education results from the synergistic melding of a wide variety of experiences that collectively constitute the content of a baccalaureate program. The specific set of experiences is never exactly the same for any two students, nor should it be so. What is most important is the *process* of the baccalaureate and how the student evolves and matures through that process.

For analytical purposes, the content of the baccalaureate program can be described in terms of knowledge, skills, and values. While these elements can and will be defined as separate elements, in the process of baccalaureate education they merge and reinforce one another. The baccalaureate program must contain components that address each of these elements. Determining how the synergism of these elements is accomplished is the most difficult challenge in curriculum development.

2.2.2 Knowledge

Knowledge refers to what students know and understand. Knowledge goes beyond mere acquisition of factual data or information to an awareness of the implications and meaning of specific information. The baccalaureate today stresses both a breadth and depth of knowledge. Often these two dimensions function quite separately. In the future baccalaureate, they must be more carefully integrated.

Breadth of Knowledge

The breadth of the baccalaureate program should impart an appreciation and broad understanding of human experience throughout the world including our cultural legacies, of human accomplishment in many areas including the arts and technology, of the advancement of human thought including philosophy and science, and of the evolution of human institutions, economic, political, and social. Through the baccalaureate process, students should experience and learn to appreciate bodies of knowledge including the creative and performing arts, the humanities, the sciences, and the social sciences, so as to provide access to realms of creativity, imagination, and feeling that explore and enlarge the meaning of what it is to be human.

Students should gain a fundamental knowledge and historical consciousness of the human organism as a physical, psychological, and social entity. They should have an understanding of how humans interact at both the narrow interpersonal and broader social levels. They should appreciate the roles that humans adopt in social systems. They should have the ability to recognize and understand social structures and the ways in which humans are grouped by virtue of such characteristics as race, ethnicity, gender, sexual orientation, and social, political, or economic status. They should also understand the implications of such groupings.

Students should gain a fundamental knowledge of their physical and biological environment including an appreciation of empiricism and experimentation, an understanding of cause and effect, and the ability to conceptualize physical and abstract systems.

Students should also gain an appreciation of global interdependence and multicultural experiences so as to break down narrow prejudices and provincial visions, and to open the eyes and mind of students to the diversity of cultures and experiences which define American society and the contemporary world.

Depth of Knowledge

Study in depth is a recognition of the degree of complexity and sophistication with which the various components of a curriculum are interrelated and understood. It is not so much an additional component of the curriculum nor is it necessarily restricted to one academic discipline or field.

Depth of knowledge develops a certain seriousness and discipline of mind, through more advanced and focused inquiry, than is obtained through breadth programs. Rigorous, guided, and sustained inquiry, that is, "disciplined" study in a single field yields outcomes that augment general education as well as providing preparation for specific careers or advanced study. It requires sequential as well as non-sequential learning, sophisticated understanding, and creative and imaginative synthesis.

A course of study which offers depth of knowledge will include a central core of method and theory that serves an introduction to the explanatory power of the field, an understanding of characteristic questions in the field, the arguments and analytic tools appropriate to the field which can serve as a basis for subsequent study and investigation, and the joy and self-confidence of mastery as well as a degree of expertise.

Study in depth teaches a student how to communicate and act based upon a reliable knowledge base so as to extend that knowledge base. It also teaches the recognition of expertise in oneself and others, and the concomitant recognition of the limitations of oneself and others.

2.2.3 Skills

Skills involve the application of knowledge in some real sense. Using critical thinking to make appropriate choices and decisions is a skill. Using statistical analysis to identify the variables or factors associated with a medical condition is a skill. Some skills are broad, having application in all fields, such as communications skills and quantitative skills. Other skills are narrower, appropriate to specific disciplines or subdisciplines, such as using a computer spreadsheet program for financial analysis or performing a qualitative analysis of a substance in a bio-chemistry lab. This discussion is concerned primarily with the former.

All baccalaureate recipients should possess advanced communication and literacy skills. They should be able to write, speak, read, listen and critically evaluate at a superior level. They should be able to recognize and deal with complexity, ambiguity, and certainty. Their experience with academic discourse should involve advancing and defending assertions, and challenging the assertions of others.

Students should have skills in collecting information, both by reviewing secondary sources and by using empirical techniques to acquire data from primary sources. They should be able to analyze and evaluate both quantitative and qualitative data to obtain meaningful information. They should be able to think logically, critically, and where necessary abstractly, in order to synthesize reasoned conclusions from information. They should also be skilled in the integration of knowledge obtained from different sources and disciplines to create new knowledge and wisdom.

Students should be skilled in utilizing various methods of inquiry; scientific, philosophical, problem-solving and artistic. They should be capable of objective observation, of discriminating between observation and inference, of formulating and testing hypotheses, and of drawing appropriate theoretical conclusions. These skills must be augmented by a recognition of the limits of empiricism, a

willingness to engage, creative risk-taking, and an ability to understand the societal context of the processes of inquiry.

2.2.4 Values

Values are the attitudes and the moral and ethical positions that individuals possess or assume. While it is not the place of the academy to determine the full range of moral values and character attributes that its students should possess, it does have an obligation to teach and promote those ethical values commonly accepted in a civil society.

Baccalaureate graduates must be able to discriminate between the normative and the positive, be able to make critical and reflective value choices, be able to understand one's role in the moral order, and be able to understand the values and ethics of a democratic society and the responsibilities of citizenship. They should also be aware of the existence of differing systems of values and of value relativism.

The baccalaureate process should teach students to appreciate ethical values, that is, commonly accepted social norms and expectations, including tolerance and respect for diversity of all types, open-mindedness, and intellectual honesty. These values combined with flexibility of mind and attitude, intellectual curiosity, and an appreciation for learning, contribute to the ability of the individual to cope with, use, and influence change. Graduates also ought to possess a social and environmental consciousness and compassion.

The process of a baccalaureate education should also develop character attributes that are generally valued by society. Among those that can be taught and learned through well-designed educational experiences are the willingness to accept individual responsibility and leadership when appropriate and to work collaboratively when that is appropriate. Other such personal attributes and values, such as honesty and integrity, must be taught more indirectly through the standards and behavior of the faculty. Through the exercise and reward of these character attributes, the educational process should instill in students a sense of personal awareness, self-worth, self-confidence, and empowerment.

2.3 Balance Between Breadth and Depth.

One of the strengths of the current baccalaureate degree program that must be continued in the future is the inclusion of elements of breadth, now contained in the general education program, and elements of depth, now contained in the academic major and minor. The adequacy of contemporary general education, major, and minor programs for the baccalaureate of the future will be examined in another section of this report. However, the combination of elements of breadth and depth is regarded as a hallmark of American higher education and should remain in any reformulation of the baccalaureate program.

While breadth and depth of content are necessary elements, they have not been well coordinated and integrated in current baccalaureate programs. All too often students are advised either formally or informally, to get general education "out of the way" early in their CSU careers or in community college, as though the true value of the baccalaureate were to be found only in the coursework applying to the academic major.

Instead of regarding the breadth elements in the baccalaureate curriculum as prerequisite to or separate from the major, we must reformulate the depth elements to extend logically and complement the breadth elements. Majors should use the foundations provided by general education, but build upon those foundation. Students should be able to see easily the connections between the breadth and depth in their baccalaureate curriculum.

2.4 Assessment and Certification of Outcomes.

Faculty take seriously the importance of assessment, both when evaluating student performance and when nurturing a student's ability to self-assess. The CSU has delineated three broad areas of competency that it expects of its graduating students: the acquisition of a prerequisite knowledge base or content, academic skills, and the experience of a set of academic and social processes which form values. Assessment can only be made clear and meaningful when its objectives are articulated through a set of competencies as learning outcomes. Effective assessment instruments must be inherently designed to address the particular outcome and competency they are intended to measure.

There are varied forms of assessment ranging from simple knowledge recall to broader "performance-based" assessments that allow students to demonstrate and apply knowledge, skill, and value competencies. Typically, but not exclusively, knowledge content may be assessed with examinations that target the knowledge base in which the student was instructed. Skills can be assessed by an evaluation of the student's performance of the particular skill, for example, essays to assess written skills, experiments and empirical research projects to assess scientific inquiry skills, and artistic performances and internship placements to assess individual professional skills. Social processes may be assessed with journals or portfolios which document the dynamic of the experiences and the reflections the student makes on the experiences.

Courses which emphasize one or more of the three valued outcomes can include complementary assessments. Thus, much of the needed assessment of student outcomes can be handled by insuring that passing grades in classes indicate satisfactory achievement on the related assessments. Common agreement on types of learning goals and assessment options can insure systemwide standards that are flexible enough to handle varied curricula, but similar enough to allow comparability.

Assessment must include more than the review of individual competencies or students. Assessment programs must allow for the formative evaluation of courses and academic programs to inform and strengthen planning and delivery of comprehensive learning experiences. Such programs should use a variety of assessment measures, including student self-reflection through portfolios and journals, to provide a broad view of effectiveness.

Ref. ———→ ASSESSMENT STUDY