

# **Expanding Academic Technology in the CSU:**

*The Report of the Academic Technology  
Planning Committee*

June 2003

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## **1. INTRODUCTION**

Bringing the California State University to the cutting edge in using academic technology to support quality teaching and learning has been the focus of a major initiative undertaken by the California State University in the academic year 2002-03. The goal of this effort is to use the CSU's prior investment in the technology infrastructure as the basis for a significant expansion of academic technology to improve teaching and learning, help provide increased and more effective access for students, and upgrade services to students as well as faculty and staff.

The seeds for this systemwide effort to promote the use of academic technology were first sown in the 1990s. In 1995, the CSU launched its Information Technology Strategy (ITS), which was designed to provide the campuses with a state-of-the-art technology environment to support personal productivity, excellence in learning and teaching, the quality of the student experience, and administrative productivity and quality. Excellence in learning and teaching was addressed through several ITS initiatives such as the Multimedia Repository, the Electronic Core Collection, and Distributed Learning and Teaching. Student Friendly Services (the improvements to the CSUMentor program) was the major focus area of the Quality of the Student Experience goal. However, over the past several years, the ITS has concentrated on technology infrastructure to address key prerequisites in support of teaching and learning such as developing and connecting all campuses to a broadband network, installing baseline hardware and software, and providing IT support and training for faculty, staff, and student users.

In the spring of 2001, noting the imminent completion of the specific infrastructure projects, the Academic Technology Advisory Committee (ATAC) made a series of recommendations to Executive Vice Chancellor David Spence to use this infrastructure in a significant expansion of academic technology. This proposal addressed faculty professional development and training, the establishment of instructional development support teams, released time for faculty to convert and redevelop courses and curricula, and continued improvements to the infrastructure, in particular classroom renovation and instructional development support facilities (see Appendix A). These proposals were presented and discussed at a spring 2002 systemwide conference held in San José and attended by campus academic technology teams.

At the same time, Chancellor Charles B. Reed and the campus presidents, acting through the Technology Steering Committee and the Executive Council, began to focus on the applications and uses of these infrastructure investments in ways that respond to the latest and best research on student learning to support and improve teaching and learning, student and administrative services, and personal effectiveness. Discussions within the Executive Council resulted in a decision to begin a planning process to apply technology to four overarching goals.

## Overarching Goals

1. **Maintain and improve the high quality of education provided by the CSU;**
2. **Meet the access requirements of California residents eligible for admission to the CSU;**
3. **Provide high levels of student satisfaction with both the education they receive and the student services that support instruction; and**
4. **Provide a mechanism by which the faculty of the CSU, both individually and collectively, can redesign their workload.**

To oversee this effort, the Executive Council authorized the appointment of the Academic Technology Planning Committee (ATPC), a group that included faculty, a student, provosts, a vice president for student affairs, chief information officers, a faculty development director, and a director of libraries. The ATPC was charged with developing a plan for the expansion of academic technology that addresses the overarching project goals and that can be implemented by campuses with system support. A project team from the CSU Chancellor's Office provided support for the ATPC, as did an independent consulting group, Collegis.

In order to identify specific projects to meet academic technology goals, the ATPC pursued three interdependent routes to gather information and to generate ideas. First, the team conducted a series of focus groups on CSU campuses to identify teaching-and-learning and student-services issues that could be addressed with technology. Second, a survey was conducted to identify CSU campus academic technology projects currently underway. Finally, the entire ATPC participated in a series of planning exercises to articulate common goals and build consensus among members. The overall planning process is described in detail in Section 5.

## 2. VISION AND PLANNING PRINCIPLES

In addition to reviewing the large amount of campus input and a scan of the campus projects, the ATPC also developed foundation documents essential to the development of this final plan. The first and most important was a comprehensive vision statement:

### Academic Technology Vision

*In the CSU, Academic Technology supports learning environments everywhere, anytime.*

<i>Supports</i>	. . . quality teaching and learning communities;
<i>Learning</i>	. . . skills, knowledge, and attitudes for success;
<i>Environments</i>	. . . enabling effective learning accessible to all;
<i>Everywhere</i>	. . . students learn in local and global environments;
<i>Anytime</i>	. . . in a person's day, career, and life.

The second set of foundation concepts is the planning principles. These identify the systemic values relating to mission, philosophy of education, and governance that must be reflected in the application of technology to the instruction and support of students within the CSU. They are the primary source of the selection criteria used to create, select, design, and implement information technology focus areas and projects.

### **Academic Technology Planning Principles**

- The highest and best use of academic technology is to help faculty provide a quality education that focuses on the student and enables the learning, teaching, research, and creative scholarship that quality education requires. The CSU will maintain and refresh the technology infrastructure as defined by the current system program.
- A balance will be maintained between requisite baseline infrastructure access for faculty, students, and staff and more advanced technology projects.
- Faculty, students, and staff will have easy, well-supported electronic access to the data and information necessary to perform their university functions regardless of CSU location.
- Academic technology products, services, and projects will be measured and supported primarily for their benefit to CSU's educational mission and not based on their technical sophistication.
- The academic technology applications most valuable to the CSU are those that are planned and developed once and chosen for sharing and implementation by multiple campuses.
- Where the CSU has already achieved advantages from its technology investments, those advantages will be leveraged to accelerate the implementation of the Academic Technology Plan.
- Individual and organizational behavior that seeks to advance CSU systemwide and campus initiatives that further the Academic Technology Plan will be rewarded.
- Faculty scholarship and innovation associated with technology-assisted learning will be supported, recognized, and rewarded.
- Quality education requires that adaptive/assistive technologies be provided to ensure overall access to academic programs and university services for students, faculty, staff, and the public.
- Support, training, professional development, and assessment are required for the successful application of academic technologies.

After crafting these core statements, the group spent several meetings developing consensus on planning assumptions and strategic and tactical criteria that would be helpful in determining the

focus areas and projects to be included in this final plan. These materials are available in Appendices B and C.

### **3. THE PROJECTS**

With this report, the Academic Technology Planning Committee proposes a series of eight projects that collectively address the goals set forward by the Executive Council. The table below identifies the title of each project and the goals addressed by that project.

#### **Academic Technology Planning Goals**

1. Maintaining and improving the high quality of education provided by the CSU;
2. Meeting the access requirements of California residents eligible for admission to the CSU;
3. Providing high levels of student satisfaction with both the education they receive and the student services that support instruction; and
4. Providing a mechanism by which the faculty of the CSU, both individually and collectively, can redesign their workload.

#### **Proposed Projects**

<b>Project Number</b>	<b>Project Title</b>	<b>Goals Addressed</b>
1	<b>Supporting Student Success</b> in the CSU	3
2	Online Modules and Associated Support Services for <b>Foundation Skills</b>	1, 2, 3
3	Supporting Shared Development of <b>Digital Learning Materials</b>	1, 2
4	CSU <b>Support</b> for <b>Research</b> and Application of Effective Practices in Academic Technology	1, 4
5	<b>Professional Development</b> for Faculty, Staff, and Administrators Involved in Academic Technology	1, 4
6	System Support for <b>Academic Technology Development Teams</b>	4
7	The <b>Academic Technology Shared-Services Environment</b>	1, 2, 3
8	The CSU <b>Digital Marketplace</b>	2, 3

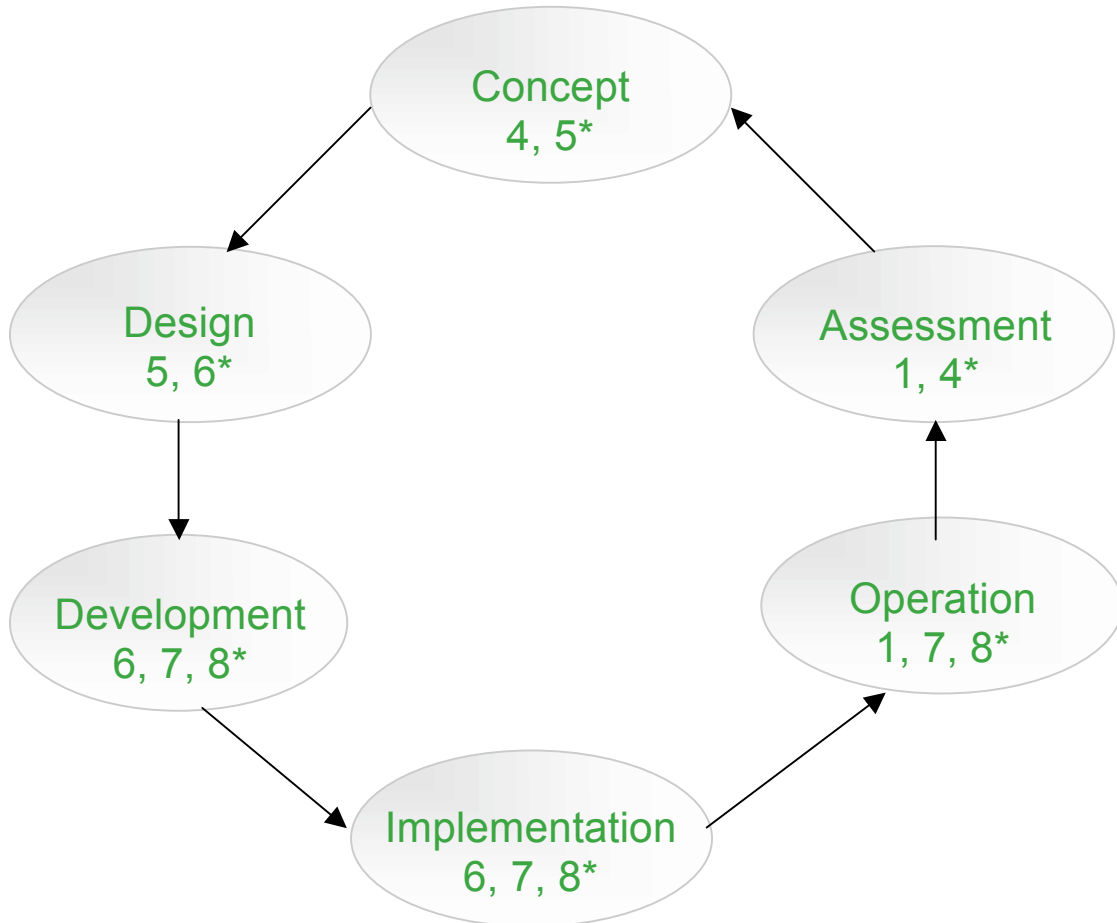
While the projects individually address the student and faculty needs identified in the planning process, collectively they support all phases of the teaching and learning life cycle. Figure 1 displays the six phases of the instructional materials/course life cycle as it supports teaching and learning. The cycle begins with the *concept* phase during which a faculty member develops an idea for a course or a portion of a course that could be supported with academic technology. The cycle continues through the *design* and *development* in which materials are created to the *implementation* and *operation* phases in which materials are used for instruction. It finishes with the *assessment* phase during which the impact of the material is constantly re-evaluated, seeking improvements that will launch the cycle again.

A detailed description of each of the projects may be found in Section 6.

# Instructional Materials/Course Life Cycle Phases

Figure 1

\*Numbers beneath phases are Projects that support the phase.



**Projects that yield academic content or student services:**

- #1. Supporting Student Success
- #2. Foundation Skills
- #3. Digital Learning Materials

**Projects that support the Instructional Materials/Course Lifecycle:**

- #1. Supporting Student Success
- #4. Research Support
- #5. AT Professional Development
- #6. AT Development Teams
- #7. AT Shared-Services Environment
- #8. Digital Marketplace

Six of the proposed projects directly support two or more phases in the materials development life cycle. Three projects yield new materials, either academic content or new student services programs. Thus these eight particular projects complement one another by supporting the life cycle activities necessary for the development of materials and by producing the new instructional and support materials most appropriate to the mission and goals of the CSU.

## **4. PROJECT IMPLEMENTATION**

### **PRIORITIES**

The Academic Technology Planning Committee discussed the assignment of priorities to the eight projects presented as part of this recommended plan. The group agreed that the three projects that yield new academic content or student services (Figure 1; Projects #1, #2, and #3) have a higher degree of importance in that they yield outcomes that directly expand the use of academic technology in the CSU. However, Projects #4 through #8, and to some extent, Project #1, establish and support the human infrastructure necessary to complete these projects and therefore must logically precede them.

Since there are significant dependencies among virtually all of the projects, and certainly so between the projects that yield new material and the projects that support its development, beginning work on any one project will require components of others as prerequisites. It may be possible to establish linear priorities for the *beginning* of the projects or even for the *completion* of these projects, but it is clear that they must proceed in large measure as parallel efforts.

### **IMPLEMENTATION RECOMMENDATIONS**

The ATPC recognizes from campus focus group feedback and from the experience of individual members in implementing academic technology projects that there are a number of important attributes that must be part of the implementation of any academic technology project. These attributes are listed below and must be addressed by those groups developing implementation plans or implementing academic technology projects. These are:

- The CSU is committed to the principle of providing access to education for the citizens of California *and* accessible education for all its students. All academic technology projects in the CSU must comply with state and federal laws associated with providing access to persons with disabilities. These laws include, but are not limited to, The Americans With Disabilities Act, and Section 508 of the 1973 Rehabilitation Act. (Please see Appendix D for the Academic Technology Advisory Committee recommendation on Accessibility.) Products purchased and services delivered within these projects shall be accessible under the provisions of these statutes.
- Every academic technology project that addresses educational content, epistemology, pedagogy, and/or student learning styles or modes must be grounded in a solid research foundation to ensure that the high quality of CSU education is maintained or advanced.

- Every academic technology project must have an evaluation and assessment component defined in its implementation plan.
- Existing policy can be an inadvertent barrier to the success of a project. The policy framework within which the implementation will occur must be addressed and a plan for changing or modifying policies that could or will hamper success must be developed and addressed in the implementation plan.
- Projects whose procurement and implementation costs exceed \$500,000 must have an approved feasibility study report (FSR) on file (see Executive Order 862, April 18, 2003). A team of campus and Chancellor's Office personnel is developing guidelines to determine both the projects covered by Executive Order 862 and the approval processes for feasibility studies. In addition to the information requested in Executive Order 862 (Appendix E), academic technology projects should address the tactical criteria endorsed by the ATPC. These are:
  - Scalability: Does the proposed project as planned and developed offer the potential for implementation on multiple campuses and/or in multiple disciplines or departments?
  - Sustainability: Can the proposed project be implemented in a way that drives down cost per user; can it be implemented through existing approval processes; and can it deal effectively with the problems of technical obsolescence and the need for continuous quality improvement?
  - Multi-unit Participation: Does the proposed project attract significant, active participation of persons from multiple disciplines, departments, and/or campuses in planning, developing, implementing, managing, and evaluating project activities?
  - Institutional Appropriateness: Can the proposed project be implemented within the current system/campus governance and policy structure, or will the project require significant changes in system/campus governance or policy?

## **5. THE PLANNING PROCESS**

The process that culminated in the projects recommended in this report was lengthy and extensive. It included the following activities.

### **FOCUS GROUPS**

Over the course of the Academic Technology Planning process, all 23 campuses in the CSU were visited for campus consultation. This was done in a two-stage process designed to provide input to and validate the ATPC's findings. During the 2002 fall term, focus groups were conducted on seven CSU campuses to ensure initial input from a diversity of perspectives: rural and urban, commuter and residential, small and large, north and south. More than 100 people (students, faculty, staff, and administrators) participated in the focus groups on each campus. They addressed questions about what challenges they faced in achieving the educational objectives faculty set for their students, how technology is being used in courses and for student

support, what obstacles must be overcome, and what is needed to overcome the obstacles. The report derived from these focus groups conducted in the fall indicated that faculty perceived several challenges to the use of information technology to achieve their educational goals:

- lack of experience in using technology to promote sound pedagogy;
- increased workload in applying technology with a concomitant lack of rewards and incentives;
- insufficient technical support;
- inadequate access to usable academic technologies; and
- institutional policies not yet adapted to technology-enabled learning environments.

In addition, faculty participants suggested that student preparedness—in technology skills, learning skills, and study skills—could be enhanced through better uses of academic technology. The report noted that special challenges for students seemed to reside in less-than-optimum technology support in campus computer labs and networks; a strong desire for online student services like records access, degree audits, and registration; and specific accommodations for students with special needs. The focus group participants also recommended leveraging the size of the CSU in procuring academic technologies, improving facilities like computer labs and smart classrooms, and increasing the availability of trained support staff.

### **CAMPUS PROJECTS SURVEY**

Concurrent with the fall 2002 focus groups was a call to CSU campuses for exemplary projects that both met one of the four overarching goals of the academic technology planning process and were scaleable—across a campus, across disciplines, or across multiple campuses and disciplines. This call produced 121 responses with projects ranging from Personal Digital Assistants (PDAs) in the classroom to alumni outreach. When sorted into topic areas, the projects predominantly fell into these general categories:

- development, support, and training for staff and faculty;
- design and development of hybrid courses;
- developing and sharing resources, tools, and programs across campuses;
- online courses (entirely or in part);
- facilities and classrooms;
- outreach and community orientation;
- library resources and services; and
- student services such as webvising.

The campus responses suggested the wide range of AT activities currently underway on the campuses and possible directions for the future.

**PROPOSED ACADEMIC TECHNOLOGY AREAS OF FOCUS**

At a three-day retreat in January 2003, the ATPC used the vision and planning principles, as well as findings from the initial focus groups and the campus projects, to identify nine areas of focus for academic technology in the CSU. See Appendix F for a full description of these focus areas. Below are the areas of focus aligned with the overarching goals.

***Goal 1: Maintaining and improving the high quality of education provided by the CSU.***

- Focus Area 1:* Transform the dynamic of learning environments.
- Focus Area 2:* Promote pedagogically sound and innovative applications of academic technology that are grounded in contemporary research.
- Focus Area 3:* Enable faculty, staff, and students to develop skills and knowledge for successful teaching and learning.

***Goal 2: Meeting the access requirements of California residents eligible for admission to the CSU.***

- Focus Area 4:* Increase access and support through innovation in academic technology.
- Focus Area 5:* Provide learning without boundaries of time and place.

***Goal 3: Providing high levels of student satisfaction with both the education they receive and the student services that support instruction.***

- Focus Area 6:* Promote student success at all stages of a student's career.
- Focus Area 7:* Simplify students' use of services.

***Goal 4: Providing mechanisms by which CSU faculty, both individually and collectively, can redesign their workload.***

- Focus Area 8:* Improve faculty effectiveness and satisfaction through flexible workload practices.
- Focus Area 9:* Strengthen support for teaching.

At this stage in the process of identifying a set of academic technology projects to pursue, the committee needed to get feedback on and to validate the nine areas of focus and other work already accomplished. Accordingly, there was a second round of focus groups, which included all the campuses not visited in the fall. CSU faculty, staff, administrators, and students were asked to comment on the initial focus group findings and the focus areas identified, suggest other important focus areas, and point out relevant academic technology projects undertaken by campuses that had not been included in the fall survey. An average of fifty individuals per campus participated in these groups, and much of their feedback reinforced the themes generated by the earlier focus groups. There was strong support for:

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- Sharing information about all aspects of teaching and learning and technology
- Using the size of the CSU system to leverage the acquisition of hardware and software
- Disseminating the results of research studies on the effects of technology-mediated instruction
- Making sure that accessibility was a crucial aspect of every Focus Area
- Fostering disciplinary collaboration and the development of shared teaching materials

There were also findings from this second round of focus groups that did not arise significantly in the first group:

- Strategic planning for technology instead of ad hoc experiments
- Development of new policies for a new technology-rich environment
- Assessment as a crucial element for every technology project
- Maintenance and support of already-existing academic databases
- Fostering the collaboration of faculty through discipline-specific councils
- Better support for temporary faculty in using information technology and teaching with information technology

In addition to providing feedback on the focus areas, the campus focus groups also produced over 80 ideas for specific projects.

The validation of these areas of focus was pursued further through consultation with various systemwide advisory groups. The CSU has numerous bodies representing all constituencies in the university that provide advice and guidance on a range of topics. These include such groups as the Advisory Board for the Institute of Teaching and Learning, the Academic Technology Advisory Committee, the Information Technology Advisory Committee, and others. In addition, many systemwide “affinity” groups were also consulted, including the Council of Library Directors, the Faculty Development Council, the Council of Academic Technology Directors, and others. These bodies also provided comments on the proposed focus areas.

### **PROJECT SELECTION**

Based on this feedback, the focus areas were modified and refined. The planning committee then turned to the task of identifying the proposed projects for inclusion in its plan for expanding academic technology in the CSU. After six months of study and reflection, the committee members had been exposed to over 100 projects, some in progress on CSU campuses and others proposed with varying degrees of detail. Their knowledge and experience had been enriched by the results and feedback from two series of campus visits and their internal discussions of goals, assumptions, and principles. For this final stage, the committee divided itself into four subgroups, each focusing on one of the initial goals of the project. Each subgroup engaged in a brainstorming session designed to identify the two most important projects to achieve each of the nine academic technology focus areas. This process yielded 18 candidate projects.

The intent of the committee at this point was to reconvene in order to place the 18 candidate projects in priority order with the expectation of reducing the final set of proposed projects to roughly eight to ten. However, the Chancellor's Office staff support team discovered a significant degree of overlap among the candidate projects. This was not surprising in that the brainstorming subgroups were working independently of one another.

At the next meeting of ATPC, the staff support team presented a recommendation that reduced the total number of projects to eleven through various combinations of candidate projects. The advantage of this approach, which was adopted by the full committee, was that all the good ideas contained in the original set of 18 projects were retained—nothing was “prioritized” onto the cutting room floor. Indeed, the planning committee itself combined four projects relating to support for student services into a single project. This yielded the eight comprehensive projects that comprise this plan.

## **6. DETAILS OF THE PROJECTS**

This section of the report presents a detailed description of the eight projects, each with an accompanying rationale that explains why that particular project is recommended.

### **Project #1: Supporting Student Success in the CSU**

#### ***Rationale:***

During the focus groups, the Academic Technology Team received much input on ways that technology could improve the student's experience in navigating through the academic and administrative systems of the university. For example:

- While many campuses reported a freshman orientation program, most had no systematic approach to address the needs of transfer students. Students indicated that gaining access to information regarding many aspects of the campus environment was often difficult if not impossible. They cited the need for a centralized, “one-stop shop” concept that would ease their transition into the new campus. Faculty detailed many of the challenges facing new students and the need to provide support to facilitate their adjustment to campus, particularly when it related to their entrance to the upper-division courses and their majors.
- Repeatedly, students asked for easy-to-use, online access to student services, including registration, course catalog (with ability to look up equivalent courses on other campuses), degree audit, graduation check, library resources, and fee payment. Most students did not use their university email addresses because of some unacceptable limitations in their campus systems. Most students appreciated the consistent look, feel, and navigation provided by their campus course management system.
- Faculty and advising staff asked for online advising tools, access to transcripts, and checks on progress to degree. In addition, faculty in some disciplines (e.g., education and biology), as well as student affairs professionals, requested online digital portfolio

capability to provide authentic assessment of student competencies and to improve career development and planning. Many faculty did not like their campus course management systems.

- All constituencies said their lives would be improved by unified authentication to online services (i.e., a single login).
- Students (and maybe others) need access to help 24x7 to assist with technologies and online programs that are available 24x7. Campus technology support organizations need help coping with the increasingly high and diverse volume of calls for help. Duplication of effort occurs all over the system as support organizations create systems and gather expertise to assist users of services that are similar on all campuses. This is true for discipline-specific services as well as services that cut across disciplines.
- Campuses will also continue to have support needs that are unique to their environments and that require local support. Any centralized support effort will require good coordination with local support services.

***Project:***

This project intends to improve the means by which students interact with the university's administrative and academic systems. It will combine several of the ideas generated by the campus groups into an overall focus on facilitating the accessible and seamless use of the technologies in ways that contribute to a student's success throughout his/her university experience.

One aspect of this project will address the special challenges of new and transfer students. An online orientation module will be developed. It will include the tools deemed necessary to ease the transition to higher education. These could range from providing maps and service guides, to electronic links to feeder high schools and community colleges, to helpful information for parents and families.

Once students are registered in the CSU, a campus-based online system will provide access to information and services. The online system will recognize the roles that an individual plays in the institution and will differentiate access to systems, programs, and information accordingly, as well as tailor the views based on the individual's needs and role. The system should interface with the campus learning management system.

As students progress through the university, these online services will be able to provide access to grades and transcripts. Online tools for accessing and managing an electronic portfolio of the work the student accomplishes during his/her studies is also an important goal. This can be a marketing tool for the student as he or she seeks employment and/or admission to graduate school. The same technical infrastructure used to create these online services for students would provide similar services to faculty and administrators with role-based access to programs, services, learning resources, and information.

In the 21<sup>st</sup> century world of 24x7 access to the Internet and online resources, help in using those resources must also be available 24x7. An important aspect of the Student Success project is creation of a 24x7 help-desk function. The goal of this service is to augment local campus help

desk support by providing support on appropriate topics to students on campus and remotely on a 24x7 basis.

This aspect of the Student Success project would address the resources/staffing, “services/business model,” processes, infrastructure, and costs associated with providing high quality services to callers seeking assistance to be effective learners and to efficiently participate in their campus activities and processes online. This service would be coordinated and integrated with local campus support functions. While the scope of this project focuses on student support, the infrastructure created to support students should be integrated so that it can be used to support faculty and staff as well.

The project will enhance existing or traditional help-desk services because it will augment the services concept to:

- add a capability to address the “first tier” questions such as network access, software/hardware problems, and typical “forgot my password” issues that often overwhelm local help desks. The project will explore requirements to deliver capabilities, explicitly prescribed and pre-determined by faculty input, that assist students by logging and, where possible, acting on requests about faculty intent concerning course or syllabus requirements, the posting or delivering of assignments, meeting test, or assignment requirements.
- support via web-posted Frequently Asked Questions (FAQs), supplemental documentation, or knowledge base, to provide a means for students to resolve on their own a substantial number of typical or recurring questions.
- create an effective, multi-tiered, regionalized, or systemwide delivery strategy for implementation.
- design the means and processes to track context-based “troubles” using knowledge management tools and make this information available to support professionals and end users.

<b>Project #2: Online Modules and Associated Support Services for Foundation Skills</b>
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***Rationale:***

A common theme of the focus groups at CSU campuses was a deep concern of faculty about the number of students that enter the CSU without being adequately prepared for college-level work. Student preparedness was cited as one of the top three challenges faced by faculty in helping students achieve the learning goals established in their courses. Faculty cited four areas in which students often have skills deficiencies. Student basic learning skills in reading, writing, math, and critical thinking often are poor. There is also the need for basic technology skills as well as for specialized technology for specific disciplines. Information literacy and study skills are the other two areas that need attention. Students do need these types of support services to assist them in achieving their academic goals. Addressing these needs is crucial to fulfilling two key goals of the Academic Technology Planning Project, namely, “maintaining and improving the quality of education provided by the CSU” and “meeting the access goals of the CSU.” Developing these foundation skills for students also will provide higher levels of student satisfaction with their

CSU education and may well help redesign faculty workload by allowing faculty to focus on higher-level skills and academic content.

***Project:***

This project is designed to provide accessible online modules and courses designed to improve basic skills in critical thinking, English language facility, writing, reading, mathematics, computer literacy, and information competencies as a student progresses toward a degree. These modules will have a strong student diagnostic component and will be developed using sound research-based practices related to student learning and skills development. The modules could be used by students throughout their academic careers both to develop and refresh essential skills. Modules also could be designed by discipline faculty to address specialized learning needs and skills required for student mastery of specialized technology skills needed for attainment of a degree in a specific discipline. Such modules should also address accessibility requirements for students with special needs and disabilities.

Modules used for this project would have a wide variety of uses in addition to student self-paced learning of skills. The modules would be valuable to student support services in reinforcing skill development and increasing students' academic expectations through programs such as EOP, TRIO, academic advising, first-year programs, career services, tutoring, and counseling. They can help high school students gain university entry-level subject area skills.

The modules would be useful for CSU Learning Centers and Summer Bridge Programs. Furthermore, they would be especially helpful in CSU early-assessment projects, which should be implemented in collaboration/consultation with K-12 schools and community colleges.

<b>Project #3: Supporting Shared Development of Digital Learning Materials and Resources</b>
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***Rationale:***

A recurring theme expressed through the campus visits was the desire to work collaboratively in the identification and development of instructional materials. Faculty and staff indicated they were anxious to leverage existing materials and the intellectual resources within the CSU to generate everything from generic learning tools to discipline-specific learning materials. The issue of shared intellectual property was met with enthusiasm as faculty expressed their interest in collaborating with others within their discipline or across disciplines as appropriate to create course materials or whole courses that could be shared with faculty across the system. They expressed a desire for open access to materials to promote sharing and ease of use.

Numerous faculty, staff and students indicated the need for a mechanism that would allow specialty topics or specialized courses taught at one campus to be available across the system. Students were particularly interested in being able to take courses they needed to complete requirements from other campuses if the course was not being offered at their home campus.

***Project:***

This project is designed to support the collaborative identification, development, and sharing of accessible digital learning materials within and among disciplines. The project is intended to

support the faculty-driven development of materials by teams at the campus level as well as regional and systemwide collaborations. The project will help facilitate the collection, organization, and dissemination of information about faculty and staff expertise that would be useful in collaborative project development, especially the pooling of faculty knowledge.

The project will provide start-up funding to support systemwide faculty-driven efforts that are coordinated through disciplinary councils or other ad hoc faculty teams to identify appropriate academic program needs and content areas for shared development projects. Development in this context includes both the identification of existing materials and the creation of new materials that address program needs. Successful faculty projects such as the Core Alignment Projects are producing common lower-division major preparation curriculum patterns that are a possible source of content for shared development of digital curricular materials. Faculty teams working on graduation roadmaps designed to support and encourage retention and graduation are another potential source for project development.

The success of this project is directly linked to the projects that provide faculty development and the support infrastructure.

<b>Project #4: CSU Support for Research and Application of Effective Practices in Academic Technology</b>
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***Rationale:***

CSU focus groups indicated that faculty were eager to have more knowledge about and more access to research on using technology in teaching and learning. The faculty expressed a desire to know more about topics such as what types of students are most successful in a distance-learning environment, for example, and what learning styles are best accommodated by web-based modules. Although many research studies exist, they need to be disseminated more effectively. In addition, many studies need to be replicated to validate the research findings. Furthermore, much new work remains to be done and the CSU, which has embraced the teacher-scholar model, is a likely site for this fusion of research and teaching.

***Project:***

This project proposes to provide accessible services and support for CSU faculty to be informed about the results of research on academic technology and to create new knowledge on teaching with technology. Based on the teacher-scholar model in the CSU, the project will encourage and provide models for the scholarship of teaching and action-research projects. The project will thus provide support for sponsoring new academic technology research, collecting existing academic technology research, and disseminating research results within the CSU. This project will also provide support for collecting and disseminating examples of effective practices for developing and integrating academic technology in ways that help to lessen faculty workload. Another aspect of this project will seek to leverage CSU funding through grant applications to other funding agencies and cooperation with national organizations.

**Project #5: Professional Development for Faculty, Staff, and Administrators Involved in Academic Technology**

***Rationale:***

In the focus groups, faculty were asked to identify challenges they faced in using academic technology to accomplish the objectives of their educational programs. The overwhelming response was the lack of systematic support for the development of pedagogically sound online courses and/or instructional materials. Faculty on most campuses reported that they were provided some form of training regarding the operational aspects of learning management systems, presentation tools, and web design, but few reported an effective functional grounding in the effective integration of technology. In their words, there was too much “click, drag, and drop” and not enough pedagogical rationale for the development of web-based instruction. On many campuses, the support for the use of technology was divided among various support units with little coordination among the units to ensure that the most important aspects of instruction were being addressed. Faculty indicated that isolated workshops resulted in the development of splinter skills and were not conducive to the productive use of information technology.

Academic technology support staff reported that they felt overwhelmed by the demands made on their time and expertise and that this interfered with their ability to offer constructive support. They stated that much of their time and energy was spent in crisis management mode rather than in a carefully designed and implemented instructional support mode. Frequently academic technology support staff only had technical training and were unable to offer the pedagogical support expected by faculty.

***Project:***

This project supports ongoing professional development programs for faculty and for those involved in supporting and managing accessible academic technology on the campuses. In addition to faculty, constituents would include IT staff, faculty development directors, librarians, and administrators.

One component of this project would develop a summer institute designed to bring groups of faculty members together to learn the technology necessary to develop electronic resources for their courses while planning and beginning the development of shared curricular materials. Faculty development and academic technology support personnel would attend the institute to assist in the training offered and to gain the requisite skills for providing ongoing support to faculty.

Another component would create an information clearinghouse for faculty members and administrators. The clearinghouse would include self-diagnostic tools, web-based tutorials, case studies, and best practices in the use of instructional technology. In addition to supporting effective teaching and learning practices, the clearinghouse would promote practices that help faculty better manage workload issues.

A third component would seek cost savings through cross-campus support of advanced, specialized, or train-the-trainers training to include, but not be limited to, specialized training for IT staff.

**Project #6: System Support for Academic Technology Development Teams**

***Rationale:***

In focus group feedback, faculty consistently cited the need for more staff to support their efforts in the development of instructional technology innovations. Faculty asked for the help of staff with expertise in instructional design, graphic design, programming, media production, etc. Teams with highly specialized expertise such as simulation development or usability evaluation could act as a shared resource throughout the system. Faculty also expressed interest in working with other faculty in their discipline (or in cross-disciplinary teams) to produce materials that could be shared across their discipline, and the need for support personnel to assist with these efforts (coordination, facilitation, and development work).

Campus academic technology support staff reported significant challenges in meeting current support demands and they currently can supply only a limited amount of this type of development assistance.

***Project:***

This project proposes the creation and management of integrated services teams that would support faculty content experts in the development of accessible online learning materials or courses. Development teams would consist of staff with expertise in instructional design, interface design, media production, programming, project management, and other skills as needed for each project. Development teams would work collaboratively with one or more faculty to identify appropriate topic areas and develop pedagogically sound materials or tools that can be shared within the discipline or across disciplines. Where possible, the resulting materials will be used as prototypes to leverage resources for additional development from outside sources.

Development teams will engage in sound practices in the development of applications including definition of the learning problem and outcomes to be achieved, research of existing solutions, selection of pedagogically appropriate technologies, and user-centered design processes in developing the application. These teams could be the means of supporting the work in other projects in this plan, including Project #2: Online Modules and Associated Support Services for Foundation Skills, and Project #3: Supporting Shared Development of Digital Learning Materials.

The scope of this project addresses the facilities, software, hardware, staffing, structure, and cost associated with providing high quality online development services across some, and eventually all, of the twenty-three CSU campuses.

**Project #7: The Academic Technology Shared-Services Environment**

***Rationale:***

Faculty cited easy access to high quality online resources as important to maintaining and improving the quality of educational programs, reducing preparation time, eliminating the duplication of effort for authors of materials, attracting and retaining high-quality faculty, and satisfying requirements for institutional and program accreditation. Faculty requested sustained

funding and operational support for existing academic technology resources. Examples of these are electronic library resources and services (Electronic Core Collection and Pharos), social science and business databases for research and instruction (SSDBA, AMSPEC, CSU GIS), digital image collections (IMAGE Project), digital library of teaching and learning applications (MERLOT and Virtual Language Labs), and other digital resources that have historically provided value to academic programs. Faculty also requested funding and operational support for new quality collections of academic, electronic resources available through open systems conforming to technical standards that promote sharing and ease of use.

Also cited was a need for a sustainable, accessible, usable and reliable 24x7 technical infrastructure and operational support for systemwide academic technology applications. Much of the learning that takes place outside the classroom utilizes these electronic resources and services as students use a wide range of instructional and research materials to complete course requirements in a timely manner. Faculty preparing instructional materials as well as conducting research also require sustained, usable, and reliable access to these materials. The network architecture and the network's performance must support that access. The need to develop an overall conceptual framework that describes how these services would fit together to serve academic programs was also identified.

Aggregating and analyzing the needs for digital academic content and technology services across CSU campuses is a required process for coordinating the development and delivery of shared, systemwide academic resources and services.

***Project:***

This project would plan, develop, and implement an accessible CSU e-learning architecture or "e-learning framework" design. This framework is a conceptual model that would describe the kinds of hardware, software, and middleware technologies and specifications necessary to establish a fully integrated and interoperable system. This system would collect, store, access, and distribute collections of multimedia, digital academic content, and services ranging from instructional materials and resources to complete course modules and/ or complete courses to library learning materials for the CSU.

The support staff and facilities required for sustainable operations and the governance processes required to develop and deliver digital collections and services that serve the teaching and learning needs in the CSU will also be important elements of the project. The e-learning framework would identify common standards for file formats and data transmission protocols to ensure that instructional and library learning materials developed or procured anywhere in the CSU could be made available and used anywhere else in the system whether they contain text, alpha-numeric data, graphics, photographs, sound clips, video, other media, or interactivity.

In establishing systemwide (if not national) standards and open resources, the project would also facilitate the purchase of commercial products necessary for overall system implementation. (Development of proprietary products, while less desirable, could be undertaken in specific cases.) It would also support the continued development and delivery of existing and new systemwide electronic core collection of academic materials, resources, and services to support and facilitate course and curricula activities throughout the CSU. It continues to make sense

economically to provide central financial support for these resources to spread the cost evenly over more than 400,000 users. The CSU Libraries' Electronic Core Collection, Pharos Interface, and processes for managing the resources and services provide an excellent model to guide the planning of the project.

<b>Project #8: The CSU Digital Marketplace</b>
------------------------------------------------

***Rationale:***

All constituencies (faculty, students, staff, and administrators) expressed a desire to leverage the size of the CSU system to reduce the cost of acquiring hardware, software, and academic technology services for academic programs. This applies equally to needs that cut across disciplines as well as to discipline-specific needs. Access to software, hardware, and other information technology services at home for faculty, staff, and students is as important as on campus since much work is done at home. Access to specialized discipline-specific software, which is often very expensive, was also expressed as an important priority.

***Project:***

The project will develop and deploy accessible administrative services that enable individuals and organizations of faculty, staff, and students to (a) identify and describe their academic technology needs, (b) find and procure academic technology solutions cost effectively, and (c) deliver academic technology solutions easily, efficiently, reliably, and accessibly.

The CSU Digital Marketplace and Services project will develop the capability and means to deliver the following types of capabilities for the CSU campuses:

- Identify systemwide opportunities for currently used and new academic technology products and services with a view towards providing campuses with academic technologies in a cost-effective manner.
- Act as a collaborative function to provide leverage with vendors for campus academic technology products and services, resulting in reduced costs through "volume" negotiations with vendors. The collaborative function would also reduce campus assessment and procurement time and costs by coordinating expertise and resources in the procurement processes.
- Serve as the CSU center of academic technology information and expertise through a repository (database) of product/vendor/service information. The CSU Digital Marketplace and Services will provide centralized information on campus experiences with academic technologies, demonstration services for campuses to learn about new academic technologies, and guidance on implementing academic technologies and vendor relations.
- Provide a one-stop, web-based shopping service for the approval, procurement and distribution of academic technology products and service, resulting in the coordinated development and delivery of academic technology products and services on a systemwide basis. Strategies and best practices for disseminating and educating campus communities about the availability and use of academic technologies would be an important features of these services.

## **Appendix A: ATAC Recommendations on Academic Technology**

A Proposal from the Academic Technology Advisory Committee  
Presented, May 2001

### **Assumptions**

1. The operating principles approved by ATAC will be used to guide the evolution of academic technology in the CSU. The use of academic technology is intended to improve the quality of teaching and learning, and to improve access to higher education for the citizens of California; and that CSU faculty have the responsibility for determining the pedagogies and instructional methods they use to achieve the learning outcomes they have articulated.
2. The CSU has a strong background in the use of academic technology to augment, support, and improve teaching and learning. Programs mounted over the past 15 years by the Commission on Learning Resources and Instructional Technology (CLRIT) and the Integrated Technology Strategy (ITS) have established a solid foundation for future progress.
3. The use of Internet-based technologies in American higher education is in an early stage. For the most part, these technologies have been used to replicate traditional pedagogies and have not taken advantage of advances in the media to significantly alter and improve learning for a new generation of students. Recent and on-going advances in hardware and network infrastructure, and in course management and instructional software are creating opportunities for new approaches to teaching and learning. The CSU should be in the vanguard of this movement.
4. The CSU system and campuses need to develop a carefully integrated strategic plan (or plans) for academic technology that articulates campus responsibilities for faculty support and draws on system responsibilities for campus support.

### **Proposal Description**

This is a broad proposal for faculty professional development for the use of academic technology. Breadth in this context means that the proposal addresses not only those things that are narrowly considered part of faculty professional development but also those support activities and investments which provide the technological environment and human infrastructure necessary for faculty to use the new technologies to improve teaching and learning and expand access in the CSU.

This proposal, if accepted, would establish a multi-year program with several elements operating in parallel and in sequence. The proposal involves a significant amount of funding for campuses to develop faculty professional development programs, to improve their instructional infrastructure for technology, and to assemble the human infrastructure (support teams) to allow faculty to use technology for the improvement of teaching and learning. While this funding request works its way through the normal CSU and state budget processes, the proposal

envisions a wide range of activities to prepare campus and system participants to (1) understand how the capabilities of academic technology are likely to evolve over the next five to ten years, (2) evaluate campus readiness for expanded funding for academic technology, (3) develop campus strategic plans for the use of expanded funding, and (4) develop a system strategic plan that fully integrates campus goals and objectives.

## **Program Elements**

### **1. Campus funding for faculty professional development in academic technology.**

The key element in the overall proposal is a permanent budget request for funds to allow campuses to mount and sustain major faculty development programs in academic technology. The total amount requested will depend upon a more careful and detailed analysis of program components and costs, but the expectation at this stage is an approximate annual average of \$1 million per campus, adjusted for size. These funds would be used for the following program elements.

- Training programs to prepare faculty, with varying backgrounds and experience with technology, to develop academic programs and courses that use technologies appropriate to the degree to improve teaching and learning, and academic advisement. Such training might address:
  - Student learning styles
  - Identification, measurement, and assessment of student learning outcomes
  - Pedagogies and instructional methods, and how they address student-learning styles
  - Course management software
  - Web development tools
  - Project evaluation strategies and techniques
- Hiring and training of instructional development professionals to support faculty, using the model of the surgical team, in developing technology-based instructional materials and instructionally-related activities. Such professionals could include:
  - Instructional design specialists
  - Web programmers
  - Software/Web site usability analysts
  - Assessment specialists
  - Library resource specialists
  - Instructional media specialists
- Faculty released time for course conversion and redevelopment.
- Improvement of the instructional infrastructure of the campus. Network infrastructure and baseline hardware have been addressed in other initiatives. This item refers to the following:
  - Renovation of classroom facilities to accommodate new academic technologies for instruction

- Establishment of support facilities to house the instructional development professionals identified above

## **2. AY2001-02 activities to prepare for campus funding.**

Under the best possible circumstances, the campus-funding element could not be available until July 2002. To prepare for that eventuality, funds already available to the Divisions of Academic Affairs and Information Technology Services would be used for three conferences during the academic year 2001-02.

- Fall 2001: Joint meeting of ATAC, the ITL Advisory Board, and the Faculty Development Directors to plan a subsequent meeting of campus academic technology teams to develop a vision of how technology will impact the delivery and organizational support of instruction over the next five years.
- Early Spring 2002: Meeting of campus academic technology teams to develop the vision of academic technology referred to above and to begin assessing the readiness of their campuses to develop and implement an academic technology strategic plan. Campus team members would likely include faculty, librarians, faculty development directors, academic computing directors or CIOs, facilities managers, and academic administrators.
- Late Spring 2002: A second meeting of campus academic technology teams to begin developing a campus academic technology strategic plan aligned with the vision for academic technology developed in the prior meeting.

It is expected that each campus will have prepared an academic technology strategic plan that has achieved consensus through the normal campus consultative process prior to receiving faculty professional development funding.

## **3. Research into how academic technology impacts student learning.**

Current studies of the effectiveness of academic technology show mixed results. While they tend to support the notion that students learn no worse with technology, there is no consistent indication that they learn better. More research is clearly needed if new technologies are to be used wisely and effectively. Specifically, the following tasks could be funded:

- An on-going environmental scan of new developments in the application of academic technology in higher education including the evaluation of new alternatives in hardware, software, and pedagogy for dissemination to campuses.
- Assessment of campus-based and systemwide projects in academic technology for dissemination to campuses.
- New research into the appropriate uses of academic technology, their impact upon student learning, and the costs associated with technology alternatives. For example, a better understanding of the so-called “digital divide” is needed in order to maintain the CSU’s commitment to equity in student access.

### **Project Outcomes and Measures of Success**

In the broadest terms, this project is expected to improve the quality of teaching and learning in the CSU and to expand student access by providing new instructional opportunities. When measured against the operating costs of traditional instruction, the use of academic technology is clearly more expensive. However, when these costs are adjusted to include the cost of classrooms, laboratories, and other physical facilities necessary to accommodate the projected growth in enrollments in the CSU over the next ten years, the use of academic technology, where appropriate to the curricula, may be quite reasonable.

A better sense of outcomes and the ways in which they can be effectively measured will need to be articulated early in the initial year of the project.

## Appendix B: ATPC Planning Assumptions

*Definition:* The **assumptions** represent forces that will affect both the planning and implementation of academic technology initiatives. Essentially they represent the state of our operating environment. They will influence, but not control the selection of tactical selection criteria.

- CSU enrollments will continue to increase at a significant rate over the next decade.
- Increases in enrollment will come with net decreases in marginal cost funds, and overall, funding for higher education will be constrained for the next few years.
- The combination of rising expectations for AT support and scarce or limited resources will mean that AT will face increasing competition with other priorities.
- A competitive external technical environment and increasing internal demands for service and support will pose difficulties in hiring, training, and retaining faculty and support staff.
- The productive deployment of AT will demand cross-divisional collaboration, although turf wars will persist and organizational structures may impede integration and cooperation.
- Faculty's increasing proficiency in, interest, and use of academic technology will require review and modification of policies on workload, intellectual property, and retention, tenure, and promotion.
- The infrastructure (TII) build-out will be completed and initially will provide adequate capacity for an extension of academic technology.
- The CSU will face increasing demands for outcomes-based accountability.
- Financial exigencies will require creative solutions to fund and support AT initiatives and projects, and some student technology fee proposals will be approved.
- The level and range of student preparation and competence for use of academic technology will continue to pose challenges.
- Industry partnerships will be more common and complex.
- The community will be more demanding of our graduates in terms of life-long learning skills and workforce preparation.
- Students will want classes, resources and services available 24/7 resulting in greater demands on faculty, staff, and the supporting infrastructure.
- Under-investment in higher education will continue and there will be a continuation or increase in unfunded mandates from the state.
- CSU needs to develop administrative leadership for academic technology.
- Effective use of academic technology is hampered by perceived tensions between pedagogy and technology.
- Demands for academic technology support services will test our existing organizational capabilities to meet them.

## Appendix C: ATPC Strategic Selection Criteria

*Definition:* The **strategic selection criteria** are derived from the planning goals and largely determine “what” the academic technology project will accomplish. Strategic criteria are the primary selection tools for choosing a small number of academic technology focus areas from the many, which will have high merit.

- **Educational Quality:** Does the proposed initiative improve or maintain the high quality of teaching and learning provided by the CSU?
- **Educational Effectiveness:** Does the proposed initiative improve pedagogy, effective teaching, active, and effective learning?
- **Access to Academic Programs:** Does the proposed initiative expand access or make access more convenient for currently enrolled CSU students?
- **Educational Access:** Does the proposed initiative expand access for potential CSU students not currently able to attend a campus?
- **Student Success:** Does the initiative improve the students’ ability to obtain a degree in a timely fashion?
- **Academic Support Services:** Does the proposed initiative improve academic support services available to students?
- **Student Services:** Does the proposed initiative improve non-academic student services?
- **Faculty Workload:** Does the initiative improve the ability of faculty members to restructure and manage a stable workload in ways that are more effective in achieving both institutional goals and career expectations?

## Appendix C: ATPC Tactical Selection Criteria

*Definition:* The **tactical selection criteria** are derived from the planning principles and assumptions and largely determine “how” the planning goals will be accomplished. Tactical criteria are the primary selection tools for choosing the academic technology projects that will address the focus areas.

### QUALITY AND IMPACT

- **Usability:** Does the proposed project incorporate technologies that are: effective in achieving their intended purposes, easy to learn, easy to use, and motivating to use?
- **Institutional Knowledge:** Does the proposed project contribute to the institutional knowledge of the CSU relating to the use of academic technology to improve instruction and address diverse student learning styles?
- **Innovation:** Does the proposed initiative provide evidence of innovation and creative scholarship?
- **Replication:** Is the proposed project replicable for other disciplines or on other campuses for the same discipline?

### ACCOUNTABILITY

- **Validation:** Does the proposed project provide early and continuous, measurable outcomes that support the initiative or initiatives under which the project is being considered and which can be used to determine the achievement of project and initiative objectives?
- **Accreditation:** does the proposed project further specific accreditation standards set forth by disciplinary and/or regional accreditation agencies?

### IMPLEMENTATION

- **Scalability:** Does the proposed project, once planned and developed, offer the potential for implementation on multiple campuses and/or in multiple disciplines or departments?
- **Sustainability:** Can the proposed project be implemented in a way that drives down cost per user; can it be implemented through existing approval processes; and can it deal effectively with the problems of technical obsolescence and the need for continuous quality improvement?
- **Multi-unit Participation:** Does the proposed project attract significant, active participation of persons from multiple disciplines, departments, and/or campuses in planning, developing, implementing, managing, and evaluating project activities?
- **Institutional Appropriateness:** Can the proposed project be implemented within the current system/campus governance and policy structure, or will the project require significant changes in system/campus governance or policy?

- **Assistive/Adaptive Technology:** Does the project provide effective assistive/adaptive technologies designed to ensure access for students, faculty, staff, and/or the community?

ECONOMICS

- **Sustainability:** Can the proposed project be implemented in a way that drives down cost per user; can it be implemented through existing approval processes; and can it deal effectively with the problems of technical obsolescence and the need for continuous quality improvement?
- **Resource Leveraging:** Does the proposed project use funding as a means of attracting additional investment from other sources, e.g., redeployment of institutional resources, grants, and fundraising?
- **Feasibility:** Can the proposed project be accomplished within the existing or expected constraints (e.g., institutional, technological, financial, personnel, and schedule)?

## **Appendix D: ATAC Recommendation on Accessibility**

"The Academic Technology Advisory Committee recommends to the Executive Vice Chancellor/Chief Academic Officer, that an ad hoc committee be appointed as soon as possible to develop guidelines and recommend responsibilities for the implementation within the CSU, of federal, state, and local requirements, such as the Americans with Disabilities Act of 1990 and Section 508 of the Rehabilitation Act of 1973, that insure that all instructional materials and student services made available through the use of technology are fully accessible to students with disabilities. This ad hoc committee should include representation from the Academic Senate, CSU; the California State Students Association; the Services to Students with Disabilities Advisory Committee; the Academic Council; the Chancellor's Office Division of Academic Affairs; and the Office of the General Counsel.

## Appendix E: Executive Order 862

BAKERSFIELD  
CHANNEL ISLANDS  
CHICO  
DOMINGUEZ HILLS  
FRESNO  
FULLERTON  
HAYWARD  
HUMBOLDT  
LONG BEACH  
LOS ANGELES  
MARITIME ACADEMY  
MONTEREY BAY  
NORTHRIDGE  
POMONA  
SACRAMENTO  
SAN BERNARDINO  
SAN DIEGO  
SAN FRANCISCO  
SAN JOSE  
SAN LUIS OBISPO  
SAN MARCOS  
SONOMA  
STANISLAUS

### THE CALIFORNIA STATE UNIVERSITY OFFICE OF THE CHANCELLOR

April 18, 2003

#### **MEMORANDUM**

**TO:** CSU Presidents

**FROM:** Charles B. Reed  
Chancellor

**SUBJECT:** Information Technology Project Management - Executive Order No: 862

Attached is a copy of Executive Order No. 862, which addresses information technology project management.

In accordance with the policy of the California State University, the campus president has the responsibility for implementing executive orders where applicable and for maintaining the campus repository and index for all executive orders.

Guidance or assistance on the implementation of this executive order should be directed to the Executive Vice Chancellor and Chief Financial Officer.

CBR:BR:pd  
Attachment

cc: Executive Staff, Office of the Chancellor  
Assistant Vice Chancellor, Information Technology Services  
Vice Presidents, Administration/Business Affairs  
Executive Deans Business Managers

**Executive Order No. 862**

**THE CALIFORNIA STATE UNIVERSITY  
Office of the Chancellor  
401 Golden Shore  
Long Beach, California 90802-4275  
(562) 9514000**

**Executive Order No.:** 862  
**Title:** Information Technology Project Management  
**Effective Date:** April 18, 2003  
**Supersedes:** No previous executive order

This executive order, issued pursuant to Sections 1 and 2 of the Standing Orders of the Board of Trustees of The California State University, establishes the process to be followed for information technology projects in the California State University.

I. Scope and Applicability

An Information Technology Project (IT Project) subject to this executive order is a procurement of information technology goods or services that is neither routine nor reoccurring but:

- A. has an estimated cost for procurement and implementation which is \$500,000 or more, or
- B. comprises an activity that regardless of cost poses a high project risk or will have a high impact to the CSU.

II. Project Approval

Prior to undertaking an IT Project a feasibility study and a solicitation plan must be developed in accordance with the model Information Technology Project and

**Executive Order No. 862 Effective Date: April 18, 2003 Page Two**

Procurement Planning Guidelines. These guidelines are located on the CSU Contract Resources Library website located at:  
<http://www.calstate.edu/csp/crl/crl.shtml#ref>. IT Projects so developed must receive the following approvals:

- A. The feasibility study must be reviewed and approved by the Executive Vice Chancellor and Chief Financial Officer.
- B. The solicitation plan must be reviewed and approved by the campus chief business officer.

III. Procurement

The procurement of information technology goods and services shall comply with the CSU Policy Manual for Contracting and Procurement. It is the policy of the CSU to employ fair and open competition to obtain the best value for the CSU. Evaluation and award of contract shall be based on objective and quantified evaluation criteria as expressed in the solicitation document.

IV. Implementation

Prior to project start date, an implementation plan must be filed with the Executive Vice Chancellor and Chief Financial Officer. The plan shall include the major project milestones, the project management structure, the criteria for completion and the completion date.

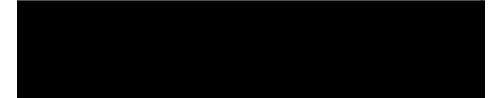
V. Review

Within the 60 days of project completion, as defined in the implementation plan, the campus shall maintain its first implementation review. This review should be made by someone not closely involved in the project yet possessing sufficient knowledge to grasp the project goals and outcome. The review shall include the following:

- whether the project achieved its stated goals;
- whether the project was completed in line with costs estimated in the feasibility study report, and if not, why not;
- the specific outcomes of the project, qualitatively and quantitatively;

**Executive Order No. 862 Effective Date: April 18, 2003 Page Three**

- whether the transition from project to ongoing operation has occurred successfully;
- the management process of the project;
- the need for subsequent actions and/or projects;
- the need for subsequent reviews of the project.



Charles B. Reed  
Chancellor

## Appendix F: Academic Technology Areas Of Focus

<i>Goal 1:</i>	<i>Maintaining and improving the high quality of education provided by the CSU.</i>
<b>Focus Area 1:</b>	<b>Transform the dynamic of learning environments.</b>
Description:	Academic technology offers the opportunity to explore learning transformations that change the relationships between teacher and learner and content. It will, in time, allow for the creation of environments in which teachers can present content in different ways designed to appeal to the diversity of student learning styles. But first, we must better understand how these considerations impact the physical and virtual environments within which we teach. This Focus Area would support innovative projects designed to better understand the relationship between content, pedagogy, and learning styles, on the one hand, and physical and virtual learning environments, on the other. It will also support projects that disseminate the knowledge and experience gained across disciplines and CSU campuses.
<b>Focus Area 2:</b>	<b>Promote pedagogically sound and innovative applications of academic technology.</b>
Description:	The CSU has already established leadership in the innovative use of academic technology. Several campuses have nearly two decades of experience in using interactive video to deliver instruction to students at remote sites. The work of the Center for Distributed Learning spawned MERLOT, an international peer reviewed database of Web-based instructional materials and modules. The availability of learning management system software has made Web-based course technology accessible to faculty members who have not had the time or inclination to become proficient in the programming languages and applications of academic technology. This Focus Area would support projects designed to develop new applications of academic technology, particularly those that could be shared across disciplines and across campuses in ways that promote the best educational experiences and save faculty time in course preparation and management.
<b>Focus Area 3:</b>	<b>Enable faculty, staff, and students to develop skills and knowledge for successful teaching and learning.</b>
Description:	The most effective use of academic technology occurs in environments where the faculty and their support staff are well trained to understand how technology can best support their teaching and learning objectives and best harmonize with the diversity of student learning styles. Equally important, students, as part of their preparation for college or their orientation to the university must acquire basic levels of information and technology competency. This Focus Area would support projects that make faculty and staff better prepared to use technology effectively in their teaching. It would also support projects that better prepare students to learn in a technology rich environment.

<p><i>Goal 2:</i></p>	<p><i>Meeting the access requirements of California residents eligible for admission to the CSU.</i></p>
<p><b>Focus Area 4:</b></p>	<p><b>Increase access and support through innovation in academic technology.</b></p>
<p>Description:</p>	<p>Approximately 50 percent of Californians live within 20 miles of a CSU campus. This also means that half of the state’s population is not within easy commuting distance of a campus. Students within this latter group may be denied access to the CSU unless they can afford to relocate or live in campus residential housing, or endure long and time-consuming commutes. Academic technology now allows courses and programs to be completed at a distance from the main campus (when determined by faculty to be appropriate for curricula, pedagogy, and student learning styles). Students, working at off-campus locations, can complete courses and programs that include access to curricular materials and library resources, as well as full interaction with faculty and other students via the Web and/or television. Considerations of accessibility to academic materials, programs, and services also include provisions for those with disabilities and special access needs. This Focus Area would support projects that develop programs designed to address the accessibility and educational needs of students who currently cannot attend CSU campuses.</p>
<p><b>Focus Area 5:</b></p>	<p><b>Provide learning without boundaries of time and place.</b></p>
<p>Description:</p>	<p>It is well known that CSU students have full lives away from the university. Today’s students tend to be older, with commitments to jobs, families, and homes. For such students, the ability to complete portions of their campus-based course work in ways that allow time and place flexibility is becoming very important. As enrollment demands and financial constraints increase, expanding this flexibility becomes even more imperative. Faculty report that multi-mode courses which use traditional lecture and lab classroom activities for a portion of instruction, but supplement the on-campus experience with Web-based activities have proven both feasible and beneficial to students and the university. By allowing on-campus students to complete part of their course work at times and places of their choosing, student convenience and satisfaction are increased while at the same time reducing the amount of classroom time and space required for a course. Campus facilities can then be better utilized, increasing access for regional students. This Focus Area would support the development of projects that encourage expansion of multi-mode courses and other innovations designed to improve convenience and access for regional students.</p>

<i>Goal 3:</i>	<i>Providing high levels of student satisfaction with both the education they receive and the student services that support instruction.</i>
<b>Focus Area 6:</b>	<b>Promote student success at all stages of a student's career.</b>
Description:	A major academic challenge within the CSU is to better facilitate students' completion of their degrees. Using information technology for academic support provides the CSU with opportunities to assist students in all stages of their academic careers. This use of information technology ranges from high school preparation and assessment of proficiency, to pre-enrollment advising and counseling for potential community college transfer students, to course registration and degree audit systems for enrolled students. This Focus Area would support projects designed to use academic technology in ways that improve the ability of students to graduate.
<b>Focus Area 7:</b>	<b>Simplify students' use of services.</b>
Description:	Only 8 percent of CSU students live in campus residential facilities. The remaining 92 percent commute to campus from their homes and work places. Access to student services is complicated for students in this latter group, many of whom are not on campus during normal business hours. These services range from academic support services (library and information resources, computer labs, tutorial support) to student services (student health centers; testing, counseling, and employment services; student activities) to business services (registrar's offices, cashier's offices, financial aid offices). Many of these services can be facilitated, if not completely delivered, through Web-based and other technologies. This Focus Area would supports projects designed to simplify and improve access to student services.

<p><i>Goal 4:</i></p>	<p><i>Providing mechanisms by which CSU faculty, both individually and collectively, can redesign their workload.</i></p>
<p><b>Focus Area 8:</b></p>	<p><b>Improve faculty effectiveness and satisfaction through flexible workload practices.</b></p>
<p>Description:</p>	<p>Faculty use of academic technology to improve and facilitate the quality of instruction has, to this point, increased individual workloads. If faculty are going to continue to innovate with technology to improve student learning, that trend must be reversed. This reversal may be possible through the adoption of new paradigms for the organization, development, and presentation of courses and programs that are based upon the development of faculty support teams that allow the professor to focus upon content and pedagogy. The technical elements of this support are addressed in Focus Area 9. This Focus Area addresses the administrative and governance structure of the university to formulate policies, practices, and reward structures that could facilitate the adoption of flexible approaches to defining faculty workload that are more effective in achieving institutional and personal career goals.</p>
<p><b>Focus Area 9:</b></p>	<p><b>Strengthen support for teaching.</b></p>
<p>Description:</p>	<p>Academic technology development in the CSU is currently a cottage industry. Faculty members do yeoman’s work, mostly alone and with limited support, to conceive, design, develop, implement, and assess course and program components. The adoption of new paradigms for instructional development and presentation that better use faculty expertise and time will rely upon the creation and successful implementation of faculty support teams. Such support teams could include professionals with expertise in student learning styles, course design, media production, programming, and assessment working under the direction of one or more faculty members to create learning materials, instructional modules, courses, or complete academic programs delivered partially or wholly through academic technology. These support professionals will need to be hired and trained. This Focus Area addresses efforts to organize and train faculty support teams – both the expert professionals needed to support faculty, but also the faculty themselves in the management of teams to support their content expertise.</p>

## **Appendix G: Supplemental Readings**

Topical Organization of Survey Projects

[http://its.calstate.edu/academic\\_technology/planning\\_documents.shtml](http://its.calstate.edu/academic_technology/planning_documents.shtml)

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Report of Academic Technology Planning Focus Groups

[http://its.calstate.edu/academic\\_technology/Focus\\_Group\\_Summary\\_Report\\_v6\\_01242003.doc](http://its.calstate.edu/academic_technology/Focus_Group_Summary_Report_v6_01242003.doc)

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Campus Consultations; 2<sup>nd</sup> Round Focus Group Report

[http://its.calstate.edu/academic\\_technology/planning\\_documents.shtml](http://its.calstate.edu/academic_technology/planning_documents.shtml)

## Appendix H: Academic Technology Planning Committee

### *Committee Membership*

	<b>Name</b>	<b>Representation</b>	<b>Campus</b>
1.	Dr. Herman Lujan	Academic Council	Los Angeles
2.	Dr. Marshall Goodman	Academic Council	San Jose
3.	Dr. Stacey Morgan-Foster	Vice President Student Affairs	Stanislaus
4.	Dr. Jacqueline Kegley	ATAC-Academic Senate	Bakersfield
5.	Dr. Marshelle Thobaben	ATAC-Academic Senate	Humboldt
6.	Dr. Cristy Jensen	ATAC-Academic Senate	Sacramento
7.	Dr. Sandy Parsons	ATAC-Academic Senate	San Marcos
8.	Dr. Michael Parker	Chief Information Officer	Fullerton
9.	Mr. Jeremiah Hanley	Chief Information Officer	San Luis Obispo
10.	Dr. Ethelynda Harding	Faculty Development Council	Fresno
11.	Mr. Rod Hersberger	Council of Library Directors	Bakersfield
12.	Dr. Harold Goldwhite	Faculty Trustee	Los Angeles
13.	Mr. Eric Guerra	Student	Sacramento

### *Project Support Team*

	<b>Name</b>	<b>Affiliation</b>	<b>Campus</b>
1.	Dr. Gary Hammerstrom	Academic Affairs	Chancellor's Office
2.	Mr. David Ernst	Information Technology Services	Chancellor's Office
3.	Dr. Lorie Roth	Academic Affairs	Chancellor's Office
4.	Dr. Gerard Hanley	Information Technology Services	Chancellor's Office
5.	Dr. Vicki Casella	Academic Affairs	San Francisco
6.	Ms. Patricia Cuocco	Information Technology Services	Chancellor's Office
7.	Mr. Lou Zweier	Center for Distributed Learning	CO/Sonoma