

**Facilitating Trouble-Free Student Transfer:  
Improving ASSIST and Articulation for California's Students  
in an Internet-worked Environment  
2000-2001 Intersegmental Budget Change Proposal**  
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**Nature of the Request**

This Intersegmental Budget Change Proposal is being submitted by the ASSIST Board of Directors to request \$5,700,000 of general funds, in addition to the current \$1,309,000 allocated for ASSIST, to strengthen and institutionalize ASSIST services in order to provide students with an improved and more dependable resource for accessing California articulation and transfer information. These funds will support the following new activities:

1. Enhance the ASSIST software to make it easier for students to use and provide support for the more complex technical environment at the central ASSIST Coordination Site
  - \$230,000 - salaries/benefits
  - \$40,000 - supplies/operating expenses
  - \$60,000 - additional facilities/telecommunications/equipment
2. Increase the number of students who use ASSIST
  - \$1,605,000 - CCC annual grants (average \$15,000 per college)
3. Regularly update and maintain articulation and curriculum data in ASSIST
  - \$1,605,000 - CCC annual grants (average \$15,000 per college)
  - \$1,320,000 - CSU annual grants (average \$60,000 per university)
  - \$480,000 - UC annual grants (average \$60,000 per university)
4. Establish high speed network access to central ASSIST server computers
  - \$60,000 - Annual lines and equipment
5. Upgrade to a fault tolerant technical environment for central ASSIST server computers
  - \$130,000 - hardware and software
6. Ensure that central ASSIST hardware and software technologies remain current
  - \$170,000 - annual replacement of 1/3 of hardware plus software upgrade contingency

**Background/History**

An effective student transfer process has remained a top priority among the California Community Colleges, California State University, and University of California as is called for in the California Master Plan and a wide range of legislation and systemwide and campus policies and practices. One of the most important cornerstones to an effective transfer process is articulation information

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that identifies how courses are transferable among campuses of the three systems of California public higher education. While responsibility for creating and maintaining articulation agreements is vested with the universities as receiving institutions, there is substantial work for both colleges and universities in developing and reviewing articulation. Over the years a number of different types of articulation information have evolved and each university has established their own practices for the number of agreements they maintain and the frequency with which they are updated.

ASSIST, the Articulation System Stimulating Inter-institutional Student Transfer, is a computerized information system which operates as the official repository of articulation information for the State of California. The mission of ASSIST is to facilitate the transfer of California Community College students to California's public 4-year universities by providing an electronic system for academic planning which delivers accurate, timely and complete information.

ASSIST began as a pilot project in 1985 funded by a combination of segmental and Transfer Center Project resources. At the conclusion of the pilot in 1988, the program moved into an implementation stage and over the years, ASSIST has grown to the point where all CCC, CSU and UC campuses are actively participating.

Day to day operational support for ASSIST including software development and maintenance, technical support, training, user support and general coordination is provided by the ASSIST Coordination Site. ASSIST is governed by the ASSIST Board of Directors which includes representatives from the CCC, CSU and UC systemwide offices and campuses, the California Postsecondary Education Commission, and the ASSIST Coordination Site.

All of the articulation information in ASSIST is entered and maintained by the individual colleges and universities throughout the state, and all California Community College, California State University and University of California campuses participate in ASSIST. The ASSIST Board of Directors has established specific goals and policies to help ensure that all of the most current articulation that has been established between California public colleges and universities is available in ASSIST.

ASSIST is currently funded at a level of \$1,309,000 annually which supports Coordination Site operations and a small offset of data entry costs for each UC and CSU campus. The segmental breakdown for current annual funding is: CCCCCO \$589,000, CSUCO \$360,000 and UCOP \$360,000.

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In order to better support the long term needs of ASSIST, and in response to the last external evaluation of ASSIST in 1996, the ASSIST Board of Directors has adopted an ongoing strategic planning process. With the first ASSIST Strategic Plan, ASSIST achieved three important goals. 1) The ASSIST database was expanded to include all of the most current articulation that had been established between all CCC, CSU, and UC campuses. 2) All of the data in ASSIST was made available via the Internet at [www.assist.org](http://www.assist.org). 3) ASSIST was established as the official repository of articulation information for the State of California by the three public systems of California higher education.

In February 1999, CCC Chancellor Nussbaum, CSU Chancellor Reed, UC President Atkinson, and CPEC Executive Director Fox signed a joint resolution endorsing ASSIST as California's official source for articulation. This endorsement emphasized the ongoing need for articulation and the importance of making it available directly to students in a comprehensive, readily accessible manner.

It is now time to capitalize on the momentum ASSIST has generated, establish and support it as a permanent resource for California, and continue to expand and enhance related services to ensure that students are provided with the information that they need in planning their academic careers.

In order to meet the current and future expectations of California students, the California Legislature and the leaders of California public higher education, ASSIST needs to be established and supported as a permanent resource. By augmenting and institutionalizing the central operations of ASSIST, the ASSIST Board will be able to ensure that articulation data in ASSIST is kept up to date, more students can be served by ASSIST, and information in ASSIST can be presented to students in new and more useful ways.

### **State Level Considerations**

An effective transfer function between California Community Colleges and the California State University and University of California remains a high priority for the State. Numerous sections of the State Education Code address specific ways in which colleges and universities are to collaborate to achieve success in this area. Some of these activities include maintaining specific ratios of transfer and non-transfer students at universities and the development of course articulation agreements between colleges and universities. Additionally, recent efforts such as the 1998 CCC/UC MOU regarding increasing student transfer, and a similar CCC/CSU MOU currently under development, reflect high level commitment to and support of an increasingly effective transfer function.

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The California public higher education systems are working hard to fix weaknesses in the current system by rebuilding efforts that have been damaged in earlier years due to conflicting priorities and restricted resources. Some of these include system efforts to restore full-time articulation officers and transfer center coordinators, and to make out-dated articulation agreements current.

Complete and up-to-date articulation agreements continue to be one of the fundamental components of an effective student transfer process in California. In the past, articulation agreements were primarily used as an internal document for counselors and evaluators. Students were rarely provided with open access to agreements. Articulation agreements have historically been designed for use by administrative personnel who understand the complexities of course transfer, and when students do gain access to articulation, they often find the agreements unwieldy and confusing.

Curriculum at colleges and universities are continually changing to meet the needs of local students and changing institutional priorities. These curricular changes require a great deal of work for college and university staff to keep existing articulation agreements up-to-date. As changes are made and new agreements established, it is critical that this information be disseminated and made readily available. Other than ASSIST, there are no effective methods for disseminating articulation agreements. Historically, colleges and universities have relied on paper distribution, which represents significant problems with lag-time, inflexibility, and access.

There are over 1.4 million students attending California Community Colleges, many of whom are interested in transferring to a CSU or UC campus. There is a significant number of students who, for a wide range of reasons, are unable or unwilling to use the services of trained counselors and advisors in preparing for transfer. For these students, easily accessible, complete and up-to-date articulation agreements are even more important as this may be the only information they use in making academic planning decisions.

### **Justification**

California's Master Plan requires a transfer function that works well for all students, regardless of whether or not they take advantage of professional counseling and advising services. With articulation agreements as one of the primary tools for students to use in transfer planning, ASSIST has been established as the only official repository for California articulation information. ASSIST was designed specifically to address issues of information access and dissemination, and has continued to evolve as tool that is actively used by all California public colleges and universities.

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ASSIST has already realized wide acceptance and success, and it has developed significant momentum. However, given the growing emphasis on the need for more articulation and the ever-changing nature of technology, there are some significant challenges facing ASSIST.

1. ASSIST and articulation need to be made easier for students to use and more students need to use it

Historically, articulation agreements have been designed for use by administrative staff at colleges and universities. The current format for presenting articulation information is often quite confusing and complex for students to take full advantage of this important information. The Coordination Site believes that by conducting detailed student focus groups, more useful ways of presenting articulation information to meet specific student needs could be developed. The ASSIST software could then be enhanced so that it would meet both the needs of students and the needs of administrative staff in communicating articulation information.

ASSIST has demonstrated success in disseminating articulation information and making it universally accessible via the Internet, and many students currently access this information on-line. In Spring 1999, an average of over 90,000 articulation agreements were viewed on-line in ASSIST each month, approximately 4,000 reports each weekday. While these number are initially quite impressive, upon further analysis, they show that use of ASSIST continues to be primarily with college and university counseling and administrative staff.

Now that ASSIST is well established at colleges and universities, the ASSIST Board of Directors believes that the next important step is to dramatically increase the number of students who use ASSIST directly. Student who use professional counseling and advising services at colleges are better prepared and have more useful and efficient interactions with these counselors if they have spent time collecting and digesting information from ASSIST. Students who do not use college services for transfer planning need to know that ASSIST is the primary resource that they should use for locating articulation information. The most cost effective way to increase direct student use of ASSIST is to provide colleges with funds through competitive grants to develop local programs and activities each year. These local programs and activities would focus on publicizing ASSIST, providing increased access to ASSIST, and other efforts aimed at raising student awareness of ASSIST. Such grants could be structured with appropriate controls and accountability measure to help ensure that expected targets are met.

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2. All of the most current articulation agreements need to be maintained in ASSIST over time

While universities are responsible for entering final articulation agreements into ASSIST, both colleges and universities are required to maintain updated curricular information in ASSIST each term. The ASSIST Board of Directors has been able to convince each college and university to enter their respective data in ASSIST over the past few years, but institutions have had to dedicate a great deal of in-kind support for these activities.

As mentioned earlier in this proposal, the total number of articulation agreements between colleges and universities is expected to increase over time and ongoing curricular changes require a great deal of work in ASSIST in order to keep existing agreements current.

The articulation information provided through ASSIST must be kept complete and up-to-date in order for students to have confidence in the data and continue using this service. Now that ASSIST has proven that it operates under a successful model and the leaders of California public higher education have endorsed it as the official repository of articulation information for the State, the ASSIST Board of Directors believes that it is time for the State to support campuses in the additional work they need to perform in order to keep ASSIST complete and up-to-date. One of the most cost effective ways to support this additional work, would be to have the Coordination Site annually contract with each college and university for the respective work that they are to perform. By contracting with campuses for these services, the State can more easily hold campuses accountable for meeting the requirements of ASSIST in this area.

3. ASSIST needs to be established and supported as a permanent, production-oriented service

As the official repository for California articulation information, ASSIST needs to be a reliable service that students can expect to be available throughout the year, 24 hours a day, 7 days a week. While all ASSIST services have been designed to meet this goal, the technology infrastructure at the central Coordination Site should be augmented to provide a fault-tolerant technical environment and reliable, high speed access to the Internet. Also, technology, especially those related to the Internet, are expected to continue to undergo rapid change in the future. It is very important that ASSIST technologies not lag too far behind. This has already happened once with ASSIST (and been rectified) and the ASSIST Board is committed to ensure that it not happen again. The most common methods for managing technical change are to maintain and continually review focused technology plans (which ASSIST already does) and to support a three-year life cycle for key equipment.

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The ASSIST Board of Directors believes that it is now time for the State to expect that the central operations of ASSIST be operated in such a manner.

4. ASSIST operations need to be supported in a more stable manner over time

During the initial 14 years of ASSIST, each of the three public systems have allocated specific funds to support central and campus ASSIST operations. The systems continue to support ASSIST at the highest levels and fully intend to maintain their current financial commitments to support ASSIST in the long term.

However, as described in the most recent external evaluation of ASSIST, sponsored by CPEC and conducted by the Carrera Consulting Group, the current structure of intersegmental funding for ASSIST served the project well in the initial years, but is now a liability as it makes ASSIST too susceptible to changes in intersegmental relations. ASSIST has already experienced (and recovered from) these types of problems, and if it is to be a reliable resource for students, this issue should be addressed.

CPEC has recommended that if the State is to allocate additional funds to ASSIST, that they be allocated from the general fund directly to the ASSIST Coordination Site (with UC as the fiscal agent). This is consistent with other well-established intersegmental projects such as MESA, PUENTE, and CAP.

**Analysis of Feasible Alternatives**

In considering the future for ASSIST, the following three alternatives have been discussed.

1. Status Quo

The sources and amount of ASSIST funding could remain at the current annual level; CCC \$589,000, CSU \$360,000 and UC \$360,000. These funds would continue to be pooled together to support central ASSIST operations and a minimum level of the total CSU and UC data maintenance costs.

However, as technology advances and increasing emphasis is placed on establishing more articulation, ASSIST would not be able to maintain its current momentum.

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New technologies require increased support for personnel as well as hardware and software. As the base technologies that support ASSIST continue to evolve, the Coordination Site would be unable to keep up. ASSIST technologies would lag and the Coordination Site would be unable to provide the types of services expected by students and institutions. Eventually, ASSIST technologies would become obsolete and could no longer be supported. At that time, it would take substantial effort to redesign ASSIST and reimplement it using current technologies.

As evidenced in many forms, including the recent CCC/UC MOU regarding increasing the total number of CCC transfers to UC, the total number of articulation agreements between colleges and universities is expected to substantially increase over the coming years. While there is a high volume of articulation currently established in California, there are many holes between institutions that have not traditionally transferred students. There is substantial work for both colleges and universities in establishing new articulation agreements and updating existing ones. This behind-the-scenes work is critical to the process and it will be increasingly important that those new and updated agreements be entered in ASSIST. CSU and UC campuses currently receive only a token amount to help offset their ASSIST data maintenance costs, and Community Colleges receive no direct funding to support their maintenance of curriculum data in ASSIST. As the demand for more articulation analysis increases, colleges and universities may be less willing to contribute substantial amounts of in-kind support to ensure that the new and updated articulation agreements are entered in ASSIST.

Lastly, with ASSIST being funded via each of the three public higher education systems, central ASSIST operations are too susceptible to potential problems with intersegmental relations. While an intersegmental funding structure may have been important during the development of ASSIST, the most recent external evaluation of ASSIST recognized that it is now more of a liability. Without a single, reliable source for all ASSIST funding, segmental differences may affect the flow of money to the ASSIST Coordination Site which can cause serious problems with ASSIST operations and the overall stability and success of ASSIST.

**2. Institutionalize and augment central ASSIST operations and support campus ASSIST activities**

A second alternative would be to augment current annual ASSIST funding with \$5,700,000 from the State general fund directly to the ASSIST Coordination Site (with the University of California as the fiscal agent as is currently the case). The current \$1,309,000 segmental allocations of ASSIST would continue to support core operations, and new funds would be used to support the following new activities:

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- 1) Enhance the ASSIST software to make it easier for students to use and support the more complex technical environment at the central ASSIST Coordination Site
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  - \$60,000 - additional facilities/telecommunications/equipment
- 2) Increase the number of students who use ASSIST
  - \$1,605,000 - CCC annual grants (average \$15,000 per college)
- 3) Regularly update and maintain articulation and curriculum data in ASSIST
  - \$1,605,000 - CCC annual grants (average \$15,000 per college)
  - \$1,320,000 - CSU annual grants (average \$60,000 per university)
  - \$480,000 - UC annual grants (average \$60,000 per university)
- 4) Establish high speed network access to central ASSIST server computers
  - \$60,000 - Annual lines and equipment
- 5) Upgrade to a fault tolerant technical environment for central ASSIST server computers
  - \$130,000 - hardware and software
- 6) Ensure that central ASSIST hardware and software technologies remain current
  - \$170,000 - annual replacement of 1/3 of hardware plus software upgrade contingency

Under guidance of the intersegmental ASSIST Board of Directors, the Coordination Site would annually contract with individual college and university campuses for services related to increasing student use and data maintenance. By carefully granting and monitoring these contracts, campuses can more easily be held accountable for achieving specific objectives and meeting ASSIST requirements. Also, by sponsoring competitive grants, colleges will be more likely to develop innovative and focused activities for increasing student use of ASSIST and articulation agreements.

This alternative would ensure that as technology continues to progress and as colleges and universities establish more articulation agreements, ASSIST would be able to keep pace and provide the highest level of service to California's growing population of students who are depending on an effective transfer process to meet their academic goals.

Also, by receiving the majority of resources from the general fund, ASSIST would

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become a permanent and stable resource that the State could continue to rely on for its important services. ASSIST would continue to be guided by and accountable to the intersegmental ASSIST Board of Directors, but central and campus ASSIST activities would no longer be as susceptible to fluctuations in intersegmental relations.

**3. Institutionalize central ASSIST operations only**

A third alternative represents a scaled-back version of the second alternative but still addresses concerns regarding the institutionalization of ASSIST. This alternative would include an annual augmentation of \$2,000,000 from the general fund to support and enhance all of the central ASSIST operations. The current annual segmental ASSIST allocations of \$1,309,000 would then be diverted to support campus ASSIST activities.

The \$2,000,000 would continue to support current central ASSIST operations at the Coordination Site as well as the following new activities:

- 1) Enhance the ASSIST software to make it easier for students to use and support the more complex technical environment at the central ASSIST Coordination Site
  - \$230,000 - salaries/benefits
  - \$40,000 - supplies/operating expenses
  - \$60,000 - additional facilities/telecommunications/equipment
- 2) Establish high speed network access to central ASSIST server computers
  - \$60,000 - Annual lines and equipment
- 3) Establish a fault tolerant technical environment for central ASSIST server computers
  - \$130,000 - hardware and software
- 4) Ensure that central ASSIST hardware and software technologies remain current
  - \$170,000 - annual replacement of 1/3 of hardware plus software upgrade contingency

This alternative would provide for stable central ASSIST operations both now and over time as technologies continue to evolve. However, important campus ASSIST activities would not be supported.

More specifically, each Community College would be able to receive approximately

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\$5,500 annually. This funding would not be sufficient to cover individual college costs for maintaining required curriculum data in ASSIST. This would also not provide any funding for colleges to increase the numbers of students who use ASSIST. Maintaining current and accurate data in ASSIST and increasing use by students are two of the primary goals that have been established by the ASSIST Board because they are directly related to the core benefits of ASSIST.

CSU and UC campuses would also not receive sufficient funds to maintain increasing numbers of articulation agreements in ASSIST. Universities are responsible for the majority of work in establishing and maintaining articulation agreements. They are also exclusively responsible for entering final agreements into ASSIST. As universities have to manage an increasing number of agreements, many may not be able to keep up with their maintenance in ASSIST. In order for ASSIST to be truly affective as a Statewide repository of articulation, it must contain all of the most current articulation established between all colleges and universities. If the data in ASSIST begin to lag behind the actual articulation that has been established, students, faculty and staff will not find that it is a reliable resource and the overall effectiveness of ASSIST will be significantly diminished.

**Recommended Alternative**

The ASSIST Board of Directors recommends the second alternative detailed above for the following reasons.

First, this alternative provides the greatest benefit for the State as it addresses the full range of needs raised earlier in this proposal, including:

- S** Making ASSIST easier to use and increasing the use of ASSIST and articulation by students to facilitate "trouble-free" student transfer
- S** Ensuring that all of the most current articulation agreements are always maintained in ASSIST
- S** Establishing and supporting permanent, production-oriented ASSIST services by:
  - S** Establishing high speed network access to central ASSIST server computers
  - S** Upgrading to a fault tolerant technical environment for central ASSIST server computers
  - S** Ensuring that ASSIST hardware and software technologies remain current
  - S** Supporting the more complex ASSIST technical environment
- S** Providing direct ASSIST funding to ensure more stable operations over time

Second, this alternative demonstrates a carefully planned expansion of ASSIST activities in key

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areas that are aligned with State priorities with attention paid to long-term cost controls and built-in accountability. By building on and maintaining the positive momentum that ASSIST has generated over the past years, with this alternative the State is more likely to experience benefits within the first year of funding as well as long term improvements.

Third, this alternative continues to reinforce the collaborative nature of ASSIST. It emphasizes and promotes intersegmental cooperation. It continues to emphasize that articulation is a critical aspect of a trouble-free student transfer process. And, it supports hard working campus staff in producing more articulation agreements.

**Timetable for Implementation**

The ASSIST Board of Directors has continued to demonstrate progress with ASSIST through strategic planning and setting focused long term goals, mid term objectives and short term activities. Because ASSIST has already established a strong infrastructure of central and campus services, most of the activities in this proposal would begin in the first budget year. By the end of the first budget year, the ASSIST Board should be able to demonstrate modest, but noticeable increases in student usage and numbers of agreements in the database. Beginning in the second budget year, the effect of campus grants in these two areas should be more significant and the State should be fully realizing the benefits of a healthy project.

The improvement of central ASSIST operations toward a permanent, production-oriented service should be less visible to the outside observer. By the end of the first budget year, the Coordination Site should complete the upgrade to a fault-tolerant technical environment for ASSIST. This will ensure that central ASSIST services continue to be available over time as technology evolves and unexpected events come about. Also during this first budget year, the Coordination Site will conduct student focus groups and other related activities to determine specific ways in which the ASSIST software can be enhanced to make it easier for students to get the information they need most. The Coordination Site will complete the development of those new software capabilities by the end of the second budget year.

In subsequent budget years, ASSIST will have the available resources to continue focusing central operations on changing technologies and other important new priorities that are sure to develop. The ASSIST Board of Directors will continue to use a strategic planning model with effective monitoring and accountability to guide the ongoing operations of ASSIST.