FORM 4: NARRATIVE ABSTRACT

The abstract is a summary of the project and should mention the problem or need being addressed, the proposed activities, and the intended outcomes. The abstract must contain: a statement of goals, purpose and objectives; and a brief description of expected results.

Applicant Name: Stephen F. Austin State University

Amount Requested: $372,875.00       Total Project Cost: $439,375.00

In support of the University mission statement and approved institutional plan for distance education, Stephen F. Austin State University will implement a project called STAIRSTEP. STAIRSTEP is an acronym for "SFA Technology Advancement Initiative for Reaching the Students of TExas Project." The STAIRSTEP project is designed to step SFA up to the next level of providing access to advanced technologies which support our institutional goals to provide high-quality education for students.

The need being addressed by this project is that current technology infrastructure at SFA is limited in scope and functionality and therefore has limited benefit for students. The advancements provided in this project will serve students by combining the power and functionality of multiple technologies and promoting effective teaching methodologies. The proposed activities of this project will include the establishment of infrastructure to manage multi-point video conferencing, the installation of "inside-the-walls" connectivity for academic areas lacking Internet access, the provision of workstations, presentation technology and other technology for the development and delivery of web-based materials. The success of the project will be supported by participation in appropriate training activities.

The purpose of the STAIRSTEP project will be met by the achievement of the following three goals:
GOAL 1: STUDENTS AT SFA, NEIGHBORING COMMUNITY COLLEGES AND SCHOOL DISTRICTS WILL BE ENABLED TO PARTICIPATE IN DISTANT EDUCATION COURSEWORK USING MULTIPoint VIDEOCONFERENCEING.

GOAL 2: SFA STUDENTS IN HIGH-USE CLASSROOM AND INSTRUCTIONAL AREAS WILL HAVE ACCESS TO THE INTERNET AND NETWORKED LEARNING RESOURCES.

GOAL 3: PROVIDE OPPORTUNITY FOR DEVELOPMENT OF WEB-BASED CURRICULA AND OTHER INSTRUCTIONAL MATERIALS SUITED FOR DELIVERY THROUGH THE USE OF ADVANCED TECHNOLOGIES.

Fifteen specific project objectives which support accomplishment of the stated goals are outlined in Form 7 of this proposal.

The expected results of the project are that students will have increased access to the Internet and networked instructional resources, that SFA will have infrastructure capable of supporting multi-point video conferencing that will be connected with regional community colleges and school districts, and that faculty will be enabled to develop and deliver web-based curricula and materials.

The total dollar amount of this project is $439,375.00. The amount being requested from the Texas Infrastructure Board is $372,875.00.
An important part of the vision of Stephen F. Austin State University is to become distinguished for state-of-the-art learning environments. Instructional technology initiatives at SFA are founded on the philosophy that proven technology should be used to remove barriers that come between students and learning opportunities and to inspire students to create and share knowledge that otherwise would be impossible. Our purpose in applying for the HE3 grant is to support this vision by providing students with ready and reliable access to advanced instructional resources for use in distance education and campus-based applications. The purpose of the STAIRSTEP project will be met by the achievement of the following three goals:

GOAL 1: STUDENTS AT SFA, NEIGHBORING COMMUNITY COLLEGES AND SCHOOL DISTRICTS WILL BE ENABLED TO PARTICIPATE IN DISTANT EDUCATION COURSEWORK USING MULTIPLEX VIDEOCONFERENCEING.

GOAL 2: SFA STUDENTS IN HIGH-USE CLASSROOM AND INSTRUCTIONAL AREAS WILL HAVE ACCESS TO THE INTERNET AND NETWORKED LEARNING RESOURCES.

GOAL 3: PROVIDE OPPORTUNITY FOR DEVELOPMENT OF WEB-BASED CURRICULA AND OTHER INSTRUCTIONAL MATERIALS SUITED FOR DELIVERY THROUGH THE USE OF ADVANCED TECHNOLOGIES.

These goals will be accomplished through the addition of “inside-the-walls connectivity” of educational facilities to the campus backbone and the Internet, the acquisition of computers for student access to the Internet, and the acquisition of equipment, interfaces and appropriate software to support interactive video and web-based distance learning.
The target population of this project is students of higher education in the rural East Texas region. Over one thousand students are expected to be affected by this project during the grant period alone. The target population will be primarily students of Stephen F. Austin State University. SFA had an enrollment of 10,246 undergraduate students in the Fall of 2000. Virtually every one of these students attends class in the SFA Liberal Arts building at one time or another during their time at SFA. This building however, is the most poorly equipped building on campus. Students attending classes in this building, and other high-use buildings such as the Education building and the Agriculture building, have no access to the Internet in classrooms and very limited access to current technology. This project will affect these students by providing them with modern state-of-the-art technologies to access the Internet and instruction with the aide of well-designed multi-media materials. Also affected by this project will be students in the surrounding community colleges and school districts. An important aspect of this project is to establish an interactive video infrastructure that will provide connectivity options to be used by area community colleges and school districts. Stephen F. Austin State University is a participating university in the North East Texas Network, a powerful emerging network project that will connect several universities and community colleges in the North East Texas region. Through the STAIRSTEP project and the HE3 TIF grant SFA will provide infrastructure to allow area K12 school to participate in the network and thereby have access not only to distance education opportunities at SFA, but other regional higher education institutions as well.
A STAIRSTEP project planning committee was formed with broad representation from across the University to conduct a needs assessment and identify appropriate solutions. This committee investigated the overall scope of the University’s instructional technology infrastructure by assessing the impact and effectiveness of past technology initiatives, examining the status of current infrastructure projects, and visiting with key University personnel in academic and technology departments.

The needs assessment revealed that our programs which use two-way interactive video to delivery instruction to distance education students are severely limited because of the inability to conduct multi-point conferences and multiple simultaneous conferences. SFA has successfully used two-way interactive video conferencing technologies since 1993. However, the inability to establish and control connections between 3 or more sites simultaneously has prevented academic departments from capitalizing on opportunities to deliver instruction via distance education efficiently to key identified sites at neighboring community colleges and regional university centers. Area community colleges reported having a need to connect into high schools in their area using multi-point video conferencing, but lack the technology to do so.

Severe networking infrastructure needs were also identified in three high-use instructional buildings. Classrooms in these buildings do not have access to the Internet and are devoid of instructional technology. Students in each of these building desperately need adequate workstations and Internet and network access from the classroom. Several faculty were also identified as lacking appropriate technology to develop and deliver or present web-based materials for students.
## FORM 7: PROJECT OBJECTIVES & METHODS

Identify project objectives and the methods or activities that will occur to meet the stated objectives. Objectives should be specific, identify what needs to be done, and be directly related to solving the needs defined in Form 6. Clearly describe project activities, state reasons for selection of activities, describe sequence of activities, describe staffing selections.

The following objectives support the accomplishment of the stated project goals.

**GOAL 1: STUDENTS AT SFA, NEIGHBORING COMMUNITY COLLEGES, AND SCHOOL DISTRICTS WILL BE ENABLED TO PARTICIPATE IN DISTANT EDUCATION COURSEWORK USING MULTIPOINT VIDEOCONFERENCEING.**

Objective 1.1 Provide a Multi-Conferencing Unit that will support multi-point video conferences, multiple simultaneous conferences, and bridge existing H.320 end user units with cutting-edge H.323 video conferencing technologies. Specifications must provide at least two simultaneous conferences with 4 end user sites each. The MCU will be connected with all existing SFA remote site end points and one new end point at SFA.

Objective 1.2 Provide a H.323 CODEC and classroom facility. This new ITV classroom will provide H.323 connectivity allowing video to be sent and received via the Internet.

Objective 1.3 Provide a bridge from area ITV connections in schools and colleges into the regional NETNet high-performance network. An analog bridge will be installed and tested that will allow compressed video sites in community colleges and schools to connect with MP2 video technology being used by the NETNet consortium of higher education institutions.

Objective 1.4 Two Support technicians will receive training in operating and supporting the multiconferencing unit. Technicians from SFA will travel to attend two days of training on the operation, configuration, and support of the MCU.

Objective 1.5 Faculty will receive training in effective instructional methodologies in an interactive video environment. Seven faculty and one interactive video instructional support specialist will
attend three days of training at the Texas A&M University Center for Distance Learning Research and become certified through the Collaborative Videoconferencing Certification Program.

Objective 1.6 Instruction will be delivered over ITV multipoint system. University and community college courses will be planned, scheduled, and offered to distance education sites.

GOAL 2: SFA STUDENTS IN HIGH-USE CLASSROOMS AND INSTRUCTIONAL AREAS WILL HAVE INCREASED ACCESS TO THE INTERNET AND NETWORKED RESOURCES.

Objective 2.1 Provide inside the walls connectivity for student Internet access in the Liberal Arts building, Education building, and Ag building. Category five cabling will be pulled and terminated according to IEEE standards to provide high-speed Internet connectivity within selected buildings.

Objective 2.2 Provide Illiad software to be used by Library to control and deliver full-text articles to the desktop of distance education students. Software will be installed and tested.

Objective 2.3 Provide a technical writing lab with Internet access and applicable software. Computers will be installed in a lab setting in the Ferguson Building to provide students access to a high-speed Internet environment. Selected software will be installed, and systems connected to the Internet and tested.

Objective 2.4 Students utilize network for Internet access. Students will use the lab area for increased access to the Internet and library documents.

GOAL 3: PROVIDE OPPORTUNITY FOR DEVELOPMENT OF WEB-BASED CURRICULA AND OTHER INSTRUCTIONAL MATERIALS SUITED FOR DELIVERY THROUGH THE USE OF ADVANCED TECHNOLOGIES.
Objective 3.1 Provide 2 mobile stations for web curriculum development and presentation. Turnkey mobile stations will be tested and distributed to the Ferguson building. The systems will provide for student and professor Internet access, curriculum development, and presentations and will include Internet connectivity, projector, document camera, etc.

Objective 3.2 Provide 20 workstations for web curriculum development. Workstations will be distributed to faculty involved in the development of web-courses and web-based curriculum who do not have ready access to adequate computer technology for such development. Workstations will be installed and tested.

Objective 3.3 15 Faculty will receive training in web-course development and effective instructional methodologies in a web-based environment. Faculty will attend on-campus training provided by the Office of Instructional Technology. Successful completion of a 20-hour hands-on curriculum achieves recognition as a Certified Online instructor.

Objective 3.4 Provide 1 large format scanner to digitize oversized government documents and other library resources for digital delivery to distance education and campus-based students.

Objective 3.5 Faculty will develop and deliver instructional resources. After receiving training, faculty will actively use the workstations, presentation stations, and scanner to develop web-based curricula and resources and use them with students in instructional environments.
This project has been planned with the expectation of long-term sustainability. It is projected that operating expenses during the year after the completion of TIFB funding will be minimal. Video conferencing equipment and computer systems used in this project will continue to be operational after the completion of TIFB funding. Departments may deliver additional courses and programs using the equipment purchased through this grant with no added equipment costs. Funding for lease lines will continue to be provided entirely by the University from existing budget line items. Equipment acquired through this grant will be evaluated for replacement after a period of five years. Replacements or upgrades will be funded as needed through special University budget appropriations and Federal and State grants.

Steps will be taken to employ cost-effective project procedures. When appropriate, existing resources and equipment will be used to allow for cost-savings. For example, an existing server will be used to support the Technical Writing/Internet Lab, and existing interactive video equipment will be utilized, where possible, to extend the longevity of past purchases and reduce the costs of program expansion. Specifications for the MCU require backwards and forward compatibility with existing and emerging interactive video capabilities. In addition, the purchase of the new H.323 video equipment actually reduces the overall MCU costs due to port configurations required to support all existing ITV sites.

All grant accounting will be handled through the Controllers Office of SFASU, which will monitor grant expenditures, prepare billing statements for reimbursement from TIFB, and prepare timely financial status reports. The Controllers Office will also document the expenditure of matching funds.
FORM 9: PROJECT TIMELINE

Include a detailed timeline for installation of equipment, training, and project activities. Document when outlined objectives are expected to be met as well as major milestones projected over the life of the project. Refer to the RFP for anticipated starting and ending dates for the grant project. All obligations of funds for activities and services conducted shall occur within those dates.

October 1, 2001  Grant accounting initiated at Stephen F. Austin State University.

            Begin faculty training for web curriculum development

October 5  Place orders for all project related hardware and software

October - project end  Faculty attend on-campus training in web-curriculum development

December 1  Technicians attend training for MCU

December 1 - May 1  Faculty attend training in ITV teaching methodology

December 15 - January 15  Install and test MCU

December 15 - January 15  Install and test H.323 classroom

December 15 - January 15  Install and test Technical Writing/Internet Lab

December 15  Install and test scanner and provide training

December 15 - January 15  Install and test web-development/presentation stations

December 15 - January 15  Provide training for web-development/presentations stations

December 15 - January 15  Install and test web-development workstations

YEAR 2002

January 15  Objective 1.1 met by this date. Provide a Multi-Conferencing Unit

          Objective 1.2 met by this date. Provide a H.323 CODEC and classroom.

          Objective 1.3 met by this date. Provide a NETNet bridge

          Objective 1.4 met by this date. Support technicians will receive training

          Objective 2.2 met by this date. Provide library software

          Objective 2.3 met by this date. Provide a technical writing/Internet lab

          Objective 3.1 met by this date. Provide 2 mobil stations

          Objective 3.2 met by this date. Provide 20 workstations

          Objective 3.4 met by this date. Provide 1 large format scanner

January 15 - December 15  Deliver instruction using multipoint ITV system

January 15 - December 15  Students access Internet from technical writing lab
January 15 - December 15  Students access files created with scanner
January 15 - May 15    Install and test network wiring
January 15 - December 15 Deliver instruction using multipoint ITV system
January 15 - December 15 Students access electronic library documents
January 15 - December 15 Utilize Web-development/presentation stations
January 15 - December 15 Develop and deliver web curriculum
March 29                 First Financial Status Report Due
May 15                   Evaluate effect of MCU, H.323, Lab, Scanner, Library software,
                         Web-instruction stations, Web-development stations
May 15                   Objective 1.5 met by this date. Faculty will receive training
                         Objective 2.1 met by this date. Provide inside the walls connectivity
June 15 - December 15    Utilize network for instruction and student internet access
August 15                Evaluate effect of MCU, H.323, Lab, Scanner, Library software,
                         Web-instruction stations, Web-development stations, and network utilization
September 30            Second Financial Status Report Due
December 15              Evaluate effect of MCU, H.323, Lab, Scanner, Library software, Web-instruction
                         stations, Web-development stations, and network utilization
                         Objective 1.6 met by this date. Instruction delivered over ITV multipoint system.
                         Objective 2.4 met by this date. Students utilize network for Internet access
                         Objective 3.5 met by this date. Faculty deliver instructional resources
                         Objective 3.3 met by this date. Faculty will receive web training
                         Goals 1, 2, and 3 met by this date.
December 31             Grant period and project end date
YEAR 2003
March 31                 Third and Final Financial Status Report Due to TIFB
The Project Director is responsible for conducting the evaluation plan. The evaluation will include formative evaluations consisting of equipment testing, systems evaluation, and programmatic evaluation. Support technicians will collect data regarding system testing and performance. Surveys and written observations by the Project Director will be used to collect and report data regarding utilization of items purchased with grant funding. Any action or corrections deemed necessary as a result of the evaluations will be taken to ensure accomplishment of the stated goals and objectives. Summative evaluations will be conducted to determine the effectiveness of the STAIRSTEP project and the application of TIF grant funds toward the project goals and objectives.

The criteria for each of the project objectives is defined below.

Objective 1.1 Provide a Multi-Conferencing Unit that will support multi-point video conferences, multiple simultaneous conferences, and bridge existing H.320 end user units with cutting-edge H.323 video conferencing technologies. Evaluation Criteria: The MCU must be fully functional and programmable. The MCU must successfully interconnect and control at least two simultaneous video conferences of four sites with a mixture of H.320 and H.323 CODECS.

Objective 1.2 Provide a H.323 CODEC and classroom facility. Evaluation Criteria: The system must be fully functional and interconnect with the new MCU to conduct video conferences over the Internet.

Objective 1.3 Provide a bridge from area ITV connections in schools and colleges into the regional NETNet high-performance network. Evaluation Criteria: The bridge must successfully interconnect an interactive video site using the NETNet MP2 protocol and a site using H.320 and H.323 through the new MCU.
Objective 1.4 Two Support technicians will receive training in operating and supporting the multiconferencing unit. Evaluation Criteria: Both technicians must provide documentation of having completed training and must demonstrate competence by managing video conferences using the MCU.

Objective 1.5 Faculty will receive training in effective instructional methodologies in an interactive video environment. Evaluation Criteria: Seven faculty and one instructional support specialist must provide documentation of having completed training and becoming certified by the TAMU Distance Learning Research Center. Each person must demonstrate competence by conducting a multi-point video conference.

Objective 1.6 Instruction will be delivered over ITV multipoint system. Evaluation Criteria: At least 4 courses must be conducted in a multi-point format during the grant period. Course offering will be documented in the CBM-004 Coordinating Board report.

Objective 2.1 Provide inside the walls connectivity for student Internet access in the Liberal Arts building, Education building, and Ag building. Evaluation Criteria: Internet access must be available in 20 identified classrooms and instructional areas which previously had no access to the Internet.

Objective 2.2 Provide Illiad software to be used by Library to control and direct full-text articles to the desktop of distance education students. Evaluation Criteria: The software must be fully functional and must be used to electronically deliver at least 100 documents during the grant period.

Objective 2.3 Provide a technical writing lab with Internet access and applicable software. Evaluation Criteria: Each computer in the lab will be functional with Internet access.
Objective 2.4  Students utilize network for Internet access. Evaluation Criteria: At least 1000 incidents of student access to the Internet must be documented.

Objective 3.1  Provide 2 mobile stations for web curriculum development and presentation. Evaluation Criteria: All components of the stations must be functional and include capability to access the Internet, development multi-media content for web-based curriculum, and be able to present the content in small workgroups and large classroom environments.

Objective 3.2  Provide 20 workstations for web curriculum development. Evaluation Criteria: Each workstation must be fully functional and meet minimum TIF specifications.

Objective 3.3  Faculty will receive training in web-course development and effective instructional methodologies in a web-based environment. Evaluation Criteria: Twenty faculty must complete the SFA 20-hour Web-Course Development Workshop Series and become Certified Online Instructors.

Objective 3.4  Provide 1 large format scanner to digitize oversized government documents and other library resources for digital delivery to distance education and campus-based students. Evaluation Criteria: The scanner must be able to scan documents according to specification.

Objective 3.5  Faculty develop and deliver instructional resources Evaluation Criteria: Twenty faculty must provide documentation of resources developed and made available to students using the mobile stations, the workstations, and/or the scanner.