The Richard Stockton of New Jersey

Fostering an Environment for Excellence

A Plan for Technology Development, Use, Support, and Enhancement
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Fostering an Environment for Excellence:
A Plan for Technology
Development, Use, Support, and Enhancement

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INTRODUCTION

Computers have become a standard tool for teaching, learning and supporting the interaction among students and faculty. In its 1991-2001 Self-Study Report the college reaffirmed its commitment to provide a technologically advanced learning environment for its students.

In the 1994 report and long-range technology plan entitled Instructional Delivery In The Age of the Electronic Highway, the college formulated strategic goals and key tactical objectives designed to guide the long-term development, support and use of technology. The plan also included recommendations that have served as a blueprint for the renewal and expansion of learning resources on campus.

By all measures the College’s 1994 plan was successful in guiding the support, development and use of technology on campus. The College has largely met all of the objectives detailed within that plan. The pace with which new and innovative technologies emerge to reshape our living and learning environs is rapid and thus inescapable in making periodic technology review critical. Accordingly, there is a clear and present need to plan for the next wave of instructional and information technologies. This document addresses that need.

VISION OF THE FUTURE

As outlined in its mission statement, the College seeks “to help our students develop the capacity for continuous learning and the ability to adapt to changing circumstances in a multicultural and interdependent world.” The mission also acknowledges the need for the institution to “change and adapt to differing circumstances and needs in our society.” Technology is an integral tool in supporting both student-focused and institutional aspects of our mission.

The College has embarked on a comprehensive planning process designated Vision 2010. This process established eight major priorities to be addressed: undergraduate curricular development, graduate curriculum development, paid educational internships, learning assessment, technology, capacity, affordability, and facilities. Volunteers from the campus community were assigned to subcommittees to respond to each of these priorities.

The Technology subcommittee of the Vision 2010 committee has been charged with examining the following: the role of technology in teaching, technology as a pedagogical tool, student utilization of technology, technology in distance/online education.

All of these objectives assume an existing technology structure that is supported, maintained, and renewed. These processes require periodic evaluation and revision supported by a formal plan. The goals and objectives outlined in the College’s previous technology plan, published in 1994, have served the institution well, but the committee believes that it is time for the document to be updated.

For the foreseeable future, current technology trends such as rapidly increasing computer speed and storage capacity, exploding growth of the Web and network bandwidth will continue. Computing and communication technology will increasingly
become an integrated part of our work and lives. Enhanced connectivity will be less constrained by time and place, and more focused on the needs of the user. The basic technology to support these trends exists now; much of it is already on campus. The challenge to the College is to adopt these technologies into the teaching, learning, and administrative processes. The purpose of this plan is to serve as a catalyst for the College’s strategic plan, **Vision 2010**. With that end in mind, this plan supports:

- Enhancements to the existing technology infrastructure
- Integration of new technologies into the existing infrastructure
- Encouraging the creative and innovative use of technology
- Increasing effectiveness and efficiency through the use of technology
- Fostering the use and ease of use of technology
- Supporting community development by sharing technology resources and expertise
- Enhancing technology support
- Aligning the College’s institutional resources with technological priorities including personnel, space, and budget

This plan also addresses the key strategic technology issues that are now emerging or have recently emerged. These issues include:

- Faculty support and training
- Ongoing and rising costs associated with technology upgrade, expansion and enhancement
- Development of the infrastructure to support the incremental growth of distributed learning
- Recruitment, retention and training of technology support personnel
- Enhancement of administrative support operations and the implementation of an Enterprise Resource Planning (ERP) system, which is the integrated administrative computer system
- Development and implementation of e-Services, e-Commerce and web portals
- Acquisition and implementation of a web-enabled system to support library operations
- Digital convergence and network expansion

**PLANNING PROCESS**


The underlying objectives of the 1994 plan were broadly written and remain relevant to the current needs of the institution. The tenets set forth in that plan were used as the
framework for this planning document. Additional goals were formulated to address emerging needs.

During the summer of 2002, an ad hoc team comprised of members of the technology subcommittee volunteered to generate a draft to serve as a starting point for subcommittee discussions in the fall of 2002. The technology subcommittee reviewed the draft, refining it to address the broad range of institutional needs, and submitted it for college-wide review in the spring of 2003.

**Ongoing Planning**

The Committee on Library and Information Technology Services is a standing committee of the Faculty Assembly. It is composed of representatives of the faculty, Office of Computer & Telecommunication Services, Library, Center For Instructional Media & Technology and the Educational Technology Training Center. The committee provides advice to the College relating to planning, implementation and management of instructional technology. Most, but not all, of this group’s input into the planning process is informal.

Ad-hoc committees are also convened by the College administration to develop plans and strategies for technology related projects. The current Technology Subcommittee of Vision 2010, the ELF (Equipment Leasing Fund) planning committee, the HETI (Higher Education Technology Infrastructure) planning committee, and the former Investment in Quality and Excellence planning committee are all examples. All of these groups are given specific charges that are usually fulfilled with the submission of a written plan.

A committee consisting of the VP for Administration and Finance, VP for Academic Affairs, VP for Student Services and the Asst. VP for Computer and Telecommunication Services is responsible for strategic planning of information technologies which support the College’s administrative functions. This committee is convened as necessary by the VP for Administration and Finance.

Additionally, user groups from each major administrative area (i.e., human resources, financial resources, student information, and alumni/development) provide input into matters relating to operational practices and information technology needs. These groups are convened periodically and are used as forums to exchange information and advice on technology planning.

**Fiscal Planning**

The College’s technology infrastructure is funded through institutional funds, grants and bonds. Unrestricted Educational & General funds are annually provided to support the advancement and operation of centralized academic computing, administrative computing, media services and communications. Funds received from a per-credit technology fee are earmarked for the replacement and upgrade of computers in the College’s centralized computer laboratories. Additionally, funds are allocated annually for the replacement of office computers. The specialized technology needs of departments (both academic and administrative) are funded through budget unit accounts and external grants.
The NJ ELF and the NJ HETI grant are programs that have provided substantial funding for the acquisition of equipment and the development and enhancement of technology infrastructure. These programs are subject to legislative approval, however, together they are expected to continue to provide periodic funding on a 3 to 4 year cycle.

TECHNOLOGY SUPPORT

Existing Technology Support

At present, technology support relating to the College’s academic operation is delivered to faculty, students and staff through several organizational units. They include:

- Office of Computer & Telecommunication Services
- Center For Instructional Media & Technology
- Southern Regional Institute (SRI) and the Educational Technology Training Center (ETTC)
- Institute for the Study of College Teaching

There are also organizational units or personnel that provide technology support relating to the College’s academic operation as a secondary role, or informally. These include, for example:

- Library Services
- Skills Center
- Science Lab
- Technology leaders among the faculty

The Office of Computer and Telecommunication Services and the Center For Instructional Media & Technology respond to most of the College’s technology support needs. The Office of Computer and Telecommunication Services delivers support relating to computer, data and voice communications. The Center For Instructional Media & Technology delivers support relating to media production, audio/video technology, and assists faculty in the development of distance learning courseware.

The College’s administrative information systems are supported by the Office of Computer and Telecommunication Services.

PLAN EVALUATION PROCESS

Evaluation
An annual evaluation process will be implemented for this plan. This process will consider how the current technology plan is being fulfilled and will make adjustments for reasons such as changing priorities, funding, or technological advances. Individual units in the college will report their annual progress in the implementation of this plan to the Assistant VP for Computer and Telecommunication Services. A summary report, as well as the current technology plan, will be available on the campus Web site. This evaluation process must be coordinated with the other planning and budget cycles existing on campus in order to have recommended changes implemented as soon as feasible.

TECHNOLOGY PLAN OVERVIEW

The College was highly successful in meeting the objectives set in its 1994 technology plan. The Middle States Library and Learning Resources Committee Self Study Report on Academic Computing (2001) details the specific measures taken in response to the 1994 technology plan and the outcomes of those activities. Building on that success, the objectives previously set forth are the core of this document. Additionally, the language used in the 1994 technology plan and other planning and assessment documents were drawn on heavily in the creation of this document. Similar to the 1994 plan, this document describes broad goals. Each goal is described and specific actions recommended for meeting each goal are included.

Development and enhancement goals address infrastructure issues. These include: access to emerging technology, maintaining technical currency, anticipating and participating in the development of new and innovative uses of emerging technologies, technological integration, vitality of the technical infrastructure, and accessible and user friendly information distribution systems.

Support goals address implementation issues. These include: links between existing and emerging technologies and the pedagogical process, physical environments which avoid strain or injury, training for end users in the use of existing and emerging technologies, and maintaining technical currency of existing facilities, the end user community and support staff.

Use goals address access issues. These include intuitive and consistent user interface and access, responsible use, technology and information literacy, and interoperability of hardware/software systems.

Extra- and Inter-campus goals address outreach issues. These include establishing or expanding relationships with other educational institutions, regional employers, libraries, and federal, state and local agencies.

DEVELOPMENT and ENHANCEMENT GOALS

1. Empower students, faculty and staff with local and global online resources
The demand for access to online resources continues to grow. Examples of this trend are seen when examining usage data. Every year for the last five years the number of computer lab reservations, the number of faculty requesting reservations, the number of students connecting to the campus network and the number and variety of software applications installed in the computer labs has risen.

To keep pace with rising demand, the College must provide a communications infrastructure with a capacity to anticipate and exploit new developments in information technology. The infrastructure must extend to resources within and beyond the physical campus and provide bandwidth that will allow for the transmission and reception of a variety of information sources. The network should build upon existing facilities, initiative and success and should also, where appropriate, promote cooperative ventures among institutions and agencies that share our objectives.

Continuing expansion and upgrades will be necessary to meet the existing and future needs of the campus.

Recommendations

- Develop and enhance network infrastructure to accommodate integrated voice, data and video technologies in support of existing and emerging technologies.
- Enhance and extend the College’s technological infrastructure, including communication infrastructure, to all campuses and all areas of campuses.
- Support projects which increase the effectiveness of the library, including, for example, the continued conversion of library collections to electronic format and developing the capacity to train students and faculty in the use of local and online remote search facilities for scholarly research.
- Expand Internet and intranet network bandwidth (reflective of demand for voice, video, data, and integrative technologies) to facilitate access to local and global resources
- Build upon existing networking resources for the purpose of enhancing instructional and administrative operations and improving the connectivity of students, faculty, staff, and local and global communities
- Encourage and recognize as scholarly the development of software and the creative use of technology.

2. Design and develop technologically advanced laboratory and classroom facilities in support of established instructional needs

The campus instructional facilities have been continuously upgraded. As space has become available, new labs have been added. Thirty-five rooms are equipped with “smart podiums” with a document camera, computer with Internet connection, projector and connection to the media distribution system. Forty-eight percent (48%) of the College’s lecture rooms have this equipment. While the college is in transition (i.e.,
converting traditional instructional facilities to electronic classrooms), measures have been taken to assure widespread access to instructional technologies. All classrooms have Internet connectivity and three portable systems (high resolution projector and laptop computer system on a specialized cart) are available for use by all faculty. Although excellent progress has been made, the demand for instructional laboratories and electronically enhanced lecture facilities is still exceeding the supply.

Continuing expansion and upgrades will be necessary to meet the existing and future needs of the campus. There is significant benefit in expanding the existing facilities or alternatively building a hub of technology where instructional and support functions can be side-by-side, thereby giving faculty and students easy access to support personnel.

Recommendations

- Provide the laboratory facilities and equipment necessary to support the existing instructional needs of a curriculum.

- Expand D-Wing computing facilities (or build a technology hub elsewhere) to provide additional general lecture facilities, walk-in facilities and appropriate space for administrative and support staff.

- Enhance classrooms and other teaching facilities by providing direct access to information technology. We should, for example, build additional electronic classroom facilities.

- Periodically review electronic classroom design and as appropriate, change future facilities and retrofit of existing facilities to, for example, facilitate classroom instruction, incorporate new technologies, and include human factor and ergonomic design principles.

3. Maintain technological currency within the College’s living and learning environs

The average member of the campus community – faculty, staff, or, student – has become technologically sophisticated. There are minimum expectations for a technologically current college campus.

To meet baseline technology requirements, the College must support and keep current a variety of technologies and policies that provide timely access to information.

Recommendations

- Upgrade dial-in facilities (reflective of demand levels) supporting non-resident access to campus and global resources.

- Evaluate and as appropriate, upgrade the College’s central information systems to provide greater administrative support for faculty, students and academic programs. This includes, for example, the development of web portals and the implementation of systems that will enhance Library operations, provide greater
access to information and campus facilities, increase operational efficiencies throughout the College, improve online administrative support to faculty and students, and especially provide support for evening and at-a-distance education.

- Use Web-based technology evaluation tools. Establish an annual evaluation process for the implementation of the technology plan. Post all technology planning and evaluation documents on the College Web site.

**SUPPORT GOALS**

Building the technological infrastructure needed to deliver both local and distributed education is an ongoing task. The technology must be managed continually and renewed periodically. Additionally, the persons using technology must be properly trained and given direct support when needed. Technology support must be provided at five levels:

- Network Support
- Platform Support
- Application Software Support
- Use Support
- Training Support

At the network layer, communication hardware and software are supported. At the platform layer, the hardware and operation system that are used to run the programs that form distributed education and administrative software suites are supported. At the application software layer, support related to installing distributed education and administrative software, troubleshooting and correcting software malfunctions is provided. At the application use layer, assistance in day-to-day use of properly functioning software is provided. And finally, at the training layer, documentation and end-user training are provided.

1. **Facilitate and coordinate the utilization of emerging instructional and information technologies**

There is a need for continued development of personnel who are trained to recognize and facilitate links between emerging technologies and the pedagogical process. These people, who include faculty members, and staff from Computer Services, Center for Instructional Media and Technology, and the Library, will assist faculty, staff and students to relate what is coming to what we are doing.

The various organizational units and campus committees having responsibility for building or advancing technology must work together to ensure that newly adopted instructional and information technologies build upon, or integrate with, existing campus technology. They should endeavor to select new technologies that adhere to industry standards. They should strive to minimize the complexity of using and supporting technology by establishing and following campus standards where practical.

*Recommendations*
• Establish a Technology Roundtable, to include the Assistant VP for Computer and Telecommunication Services and the directors of Computer Services, Center for Instructional Media & Technology and the Library. This group will provide coordination of technology efforts which support Academic Affairs.

• Facilitate an awareness of technology related developments in pedagogy and instructional delivery.

2. Provide faculty with the resources needed to develop new strategies for teaching and learning.

The College has established the Institute for the Study of College Teaching, which provides a wide range of professional opportunities for the faculty to undertake comprehensive research studies of college classroom teaching, and to develop strategies to implement research findings in the classroom. The College should continue to support the study and advancement of technologically innovative teaching and learning.

New teaching and learning strategies will likely emerge from such research. The College must assist faculty in the design, development, and use of technology based course materials. Distributed learning is a current and leading strategy in technology supported education. As other new strategies are brought into widespread use, the intellectual and technical infrastructure that is needed to effectuate the strategies must be articulated and implemented.

Recommendations

• Continue to encourage faculty participation in programs focused on assisting them use technology as a pedagogical tool. Possible strategies include awards for effective implementation of instructional technology, providing resources to support research in the effective uses of instructional technology, and the addition to the academic calendar of faculty development activities.

• Continue the existing practice of adding electronic classrooms to meet the growing demands for these types of instructional spaces.

• Install additional instructional computer laboratories to meet the growing demands for these types of instructional spaces.

3. Enhance, upgrade, and maintain existing facilities

In the 1994 technology plan, universal access for every student, faculty and staff was an important goal. That goal has been achieved. Presently, all faculty and office staff members are equipped with networked, desktop computers. Additionally, there are over 625 computers in the 26 computer laboratories and other academic support facilities, and 35 electronic classrooms on campus.

The College must continue to view technology as an institutional priority. The College must continue to provide for the replacement and renewal of its existing technological
infrastructure. The College must allocate sufficient personnel and fiscal resources to meet instructional and administrative needs. Further, the College must continue to plan for advanced instructional technologies when planning new facilities.

The lack of space is a problem that needs immediate attention. Another area of concern is establishing physical environments which observe accepted human factor and ergonomic designs so as to avoid strain and injuries. It should be the College’s goal to enhance the health and productivity of all technology users.

**Recommendations**

- Continue the existing practice of regularly upgrading hardware, software and connectivity of the instructional technology facilities. These facilities include instructional computer laboratories, electronic classrooms, interactive television classrooms, electronic facilities in large lecture rooms, and faculty and staff workstations.

- Develop a facilities master plan that addresses the space needs for technology on campus.

- Develop technology needs assessment process .

4. **Provide training and ongoing assistance for end-users in the effective use of technology**

The best technology is only as good as the skills of those using it. The College must continue to provide training for end-users of technology so they may be productive in professional work assignments, coursework, scholarship and research. Training promotes greater technical self-sufficiency. The best technical training program, however, cannot fully address the technical needs of a campus. The College must also continue to provide users with access to a technical support team through, for example, a help desk or web board.

The College must also address the technical support needs of non-traditional students and the faculty and students engaged in distributed learning and graduate education.

The various organizational units that have been entrusted with building the College’s technological infrastructure and supporting technology users must work as a cohesive unit. They should operate as an integrated, distributed support team. Effective technology support must be delivered for all major applications across the five technology support layers mentioned earlier. Responsibilities for the layered support of major applications must be fully assigned, clearly delineated, and articulated to the various units that are responsible for support delivery.

**Recommendations**

- Enhance the existing support structure at all five layers – network, platform, applications software, use, and training – to provide for support services beyond the established business hours of the institution. Enhancing these services may include actions such as expanding existing staff, expanding existing support
contracts with third parties, or providing additional electronic support resources such as online or locally run computer based training applications.

- Establish a mechanism for user support that will provide a single point of contact for technology problem resolution regardless of which department is responsible for providing support. Possible strategies include meetings of the various departments to clarify roles and how to route support requests and the development of an online “wizard” for use by support staff and end users to analyze the support request and direct it efficiently.

- Publicize existing resources to the campus community, focusing on each department in turn throughout the semester (e.g., Library Awareness Week).

5. Maintain the technical currency of support staff

The College must assure that its support staff is kept current on the technologies offered to the end-user. This is simply wise economics; technology offered without up-to-date support is a technology which is likely to be ineffectual. Staff members need to be trained on all aspects of our instructional and information technologies: hardware, software, delivery systems and end-user applications. We must continue to “train-the-trainer” or much of our other efforts will be ineffective.

Recommendation

- Provide budgetary resources for the ongoing training of all technical staff.

USE GOALS

The College must ensure that all members of the community – including users from outside the physical college – have easy, consistent, and responsible access to instructional resources and services throughout the campus.

1. Achieve technological literacy throughout the College community

The committee believes that access and literacy are inextricably linked. We must make sure that all elements of the community use the technologies in intelligent and informed ways.

Recommendation

- Technological literacy is a moving target because technology changes so rapidly. Maintaining technological literacy requires access to current technical resources and training. Strategies to support the ongoing efforts to provided technology literacy to our faculty, staff, and student should be developed.
For faculty and staff and individual departments/programs this could include the development of a personal and/or departmental technology literacy plan.

For the students this might include the addition of credit or non-credit modules in the instructional program to provide general and content specific training on appropriate technology tools (a project that is currently underway) or a focus on technology across the curriculum similar to current efforts emphasizing written and quantitative skills.

2. Achieve information literacy throughout the College community

Information literacy is viewed as a core educational standard by the Middle States Association of Colleges and Schools. This standard will be applied to the College during its 2012 accreditation review.

Middle States defines information literacy as “an intellectual framework for identifying, finding, understanding, evaluating and using information” and “vital to all disciplines and to effective teaching and learning in any institution. Institutions of higher education need to provide students and instructors with the knowledge, skills, and tools to obtain information in many formats and media.” Specific academic and behavioral elements are included in this definition:

<table>
<thead>
<tr>
<th>Determining the nature and extent of needed information</th>
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<tbody>
<tr>
<td>Accessing information effectively and efficiently</td>
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<tr>
<td>Critically evaluating information and its sources</td>
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<tr>
<td>Incorporating selected information in the learners knowledge base</td>
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<tr>
<td>Using information effectively to accomplish a specific purpose</td>
</tr>
<tr>
<td>Incorporating selected information in the learners value system</td>
</tr>
<tr>
<td>Understanding the economic, legal and social issues surrounding the use of information and information technology</td>
</tr>
<tr>
<td>Observing laws, regulations, and institutional policies related to the access and use of information.</td>
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</tbody>
</table>

Recommendation

- Information literacy involves using technology tools to acquire information, but also involves intellectual skills to evaluate this information. Strategies for addressing information literacy might include the addition of credit or non-credit modules in the instructional program or a focus on information literacy across the curriculum.

3. Provide access to instructional resources throughout the physical college for our student population

Students should have easy access to computing and other information technologies across the campus. The College should endeavor to provide late night, weekend and, where practical, 24 x 7 access to libraries, laboratories, and other learning spaces.
Recommendation

- Provide additional instructional technology resources on a 24 x 7 basis. Specific strategies may include additional computer laboratories, additional dial-up capability, partnerships with technology resource providers, additional online library research resources.

4. Provide a simple and consistent human-machine interface throughout the campus

The committee is concerned that not only should everyone have access to the network but, given the wide variety of computing resources and information technologies present or expected, we also see a critical need to make the machine-human interface simple and consistent wherever members of the College community connect to the network.

An environment with a diverse base of equipment and software poses a much greater challenge to user and support personnel than one with a narrow base. In the absence of software and hardware standards, the College’s equipment and software base can become unnecessarily diverse and hence difficult to use and support. Technology standards serve as a measure to abate this condition. Rigid standards, however, can have the negative effect of forcing users to conform to unwanted or inappropriate software and hardware tools. Accordingly, technology standards must be carefully developed to serve as guidelines, not rules.

Recommendations

- Establish guidelines in each instructional content area for software selection and upgrade so that students learning a tool for a particular course will be able to use that knowledge in subsequent courses.

- Evaluate additions or modifications to technology resources to assure that the user interface is consistent and clear. This can be accomplished through regular interactions with campus community to determine areas of concern and in-house or third party application customization.

5. Develop and provide support for all users

Simple and consistent interfacing and standards will solve many problems. Even at that, the committee sees the ongoing need for well-trained support services/help-desks/help software for all of the instructional and information technologies available.

The responsibilities of the various technology support units on campus are largely separated along boundaries such as network infrastructure, hardware, and software, or functional boundaries such as academic and administrative uses. The technology related problems that users experience do not, however, always clearly separate along these boundaries. The various technology support units on campus should endeavor to provide customer-oriented services. They should for example, directly and personally refer user problems that are outside of their area of responsibility to the appropriate party
without necessarily involving the end user. The end user should have the convenience of one-stop shopping.

Measures should be taken to build an integrated team and deliver a whole product that combines help desk, technical specialists, prompt support, training, online tutorials and easily accessible documentation.

Recommendation

- Establish a single point of contact for all technology assistance needs.

6. Expand and enhance instructional, social and administrative services for evening, weekend and distance learning students.

A full array of services is provided to students and faculty on campus. Many of these services are delivered on campus between 8:30 am to 4:30 pm. Evening students and those at a distance do not have access to many important services. The college must reexamine past practices and, where necessary and practical, alter the method and/or time-frame for delivering services so as to provide greater convenience and a fuller college experience to evening and distance learning students.

Recommendation

- All units of the College need to reexamine their services for evening, weekend and distance learning students. Services should be expanded to fulfill unmet needs of these students.

INTER- AND EXTRA- CAMPUS GOALS

The College must seek resources and partnerships beyond the campus so that the wider community can participate in our vision.

1. Establish curricular partnerships with institutions in the public and private sectors.

The College should continue to provide local high schools and other school systems with access to computing workshops, seminars and facilities. The College should take a leading role in improving the technological literacy of teachers. The College should identify cost-effective ways to access, share and to exchange technological and information resources with other colleges and universities nationwide. The College should also form alliances with local, state, federal agencies, libraries, and private industries to plan, develop, support and disseminate new educational productions using information technologies.

Recommendations

- Continue to explore and develop, as appropriate, partnerships with institutions in the public and private sectors that will serve to materially advance the objectives
of this plan. Included in this recommendation is the development of partnerships that will provide technology related internship opportunities for students.

- Assume the role of leader in southern New Jersey relating to information technology use, education and training by building upon the success of the ETTC in establishing Stockton as a regional training center for technology related professional training and non-credit education, and exploring other technology related entrepreneurial opportunities that advance the goals of Vision 2010.

2. Maintain and enhance its communications to state, national and global networks

Stockton should maintain and enhance its network infrastructure providing reliable service, broad capability and widespread connectivity throughout the campus and externally, serving the diverse needs for instruction and research purposes. Our participation in statewide and national telecommunications programs should also be expanded.

**Recommendation**

- Continue to provide access to national and global networks and insure that sufficient bandwidth is available to meet the increasing data communication needs of the institution. Evaluate and, as appropriate, support initiatives that will aid in the development of a cost effective and useful statewide video, data, and voice network, including for example, NJEdge.net.

3. Develop and implement distributed learning programs

The development and deployment of distributed learning programs not only enhance access to educational opportunities both to traditional and non-traditional students, but also allows avenues for outreach to diverse populations, especially in the southern New Jersey region. It can also provide an effective vehicle for retraining an obsolete or under prepared workforce.

The facilities necessary for distributed learning additionally support and enhance many existing and proposed uses of technology on campus. For example, the head-end and distribution facilities that support distance learning also support electronic classrooms and the interactive production capabilities for the Center for Instructional Media And Technology.

Stockton’s educational access television channel reaches in excess of 100,000 homes. Additionally, Stockton has been granted funds to participate in the NJEdge network. This network supports statewide, high-speed, multimedia communications that will enable the College to affordably deliver quality video and other high bandwidth services. These available technologies, designed for distributed learning and resources sharing, compliment and supplement Stockton’s technological infrastructure.
**Recommendations**

- Incrementally develop the capacity to carry out distributed learning in support of degree programs and continuing education.

- Develop partnerships that will permit the College to capitalize on the capabilities of NJEdge

**PLAN OF ACTION**

The following tables summarize the specific recommendations of this plan and a course of action for implementing the recommendations. Funding priority rank is provided on a scale of 1 (highest) to 5 (lowest).
<table>
<thead>
<tr>
<th>Development and Enhancement Recommendations</th>
<th>Fund Source; Priority</th>
<th>Time Line</th>
<th>Process; Responsible Unit(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop and enhance network infrastructure to accommodate integrated voice, data and video technologies</td>
<td>HETI; 2</td>
<td>FY 2004-06</td>
<td>Develop Operational Plan/Proposal; Computer &amp; Telecommunication Services, Media Services</td>
</tr>
<tr>
<td>Enhance and extend the College’s technology infrastructure, including communication infrastructure, to all campuses and all areas of campuses.</td>
<td>CRDA¹, ELF &amp; College; 1</td>
<td>FY 2003-05</td>
<td>Include in construction planning (e.g., Carnegie Renovation); SRI, Computer &amp; Telecommunication Services, Academic Affairs, Facilities Planning</td>
</tr>
<tr>
<td>Support projects which increase the effectiveness of the library</td>
<td>ELF &amp; College; 1</td>
<td>Ongoing</td>
<td>Develop “Library System” Upgrade plans and other needed operational plans; Library, Office of Computer &amp; Telecommunication Services, faculty consultation</td>
</tr>
<tr>
<td>Expand Internet and intranet network bandwidth to facilitate access to local and global resources</td>
<td>HETI &amp; College; 1</td>
<td>FY 2003-08</td>
<td>Develop operational plan; Computer &amp; Telecommunication Services, Center For Instructional Media &amp; Technology</td>
</tr>
<tr>
<td>Build upon existing networking resource for the purpose of enhancing instructional and administrative operations and improving the connectivity of students, faculty, staff, and local and global communities</td>
<td>HETI &amp; College; 1</td>
<td>FY 2003-08</td>
<td>Develop operational plan; Computer &amp; Telecommunication Services, NJEdge</td>
</tr>
<tr>
<td>Encourage and recognize as scholarly the development of software and the creative use of technology</td>
<td>N/A</td>
<td>Ongoing</td>
<td>Identify or establish appropriate policies/practices; Academic Affairs, faculty consultation</td>
</tr>
</tbody>
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¹ CRDA Casino Reinvestment Development Authority
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<tbody>
<tr>
<td>Provide the laboratory facilities and equipment necessary to support the existing instructional needs of a curriculum</td>
<td>ELF / College; 1</td>
<td>Ongoing</td>
<td>Develop Operational Plan/Proposal; Computer &amp; Telecommunication Services, faculty consultation</td>
</tr>
<tr>
<td>Expand D-Wing computing facilities (or build a technology hub elsewhere) to provide additional general lecture facilities, walk-in facilities and appropriate space for administrative and support staff</td>
<td>ELF &amp; College; 2</td>
<td>FY 2003-05</td>
<td>Develop Operational Plan/Proposal; Computer &amp; Telecommunication Services, Academic Affairs, Facilities Planning</td>
</tr>
<tr>
<td>Enhance Classrooms and other teaching facilities by providing direct access to information technology (by building additional and more advanced electronic classrooms facilities)</td>
<td>CRDA, ELF &amp; College; 2</td>
<td>FY 2003 - 05</td>
<td>Develop Operational Plan; Academic Affairs, Computer &amp; Telecommunication Services, Facilities Planning, faculty consultation</td>
</tr>
<tr>
<td>Periodically review electronic classroom design</td>
<td>N/A</td>
<td>Ongoing</td>
<td>Develop new designs based upon user recommendations and new technologies; Computer &amp; Telecommunication Services, Center For Instructional Media &amp; Technology, Facilities Planning, faculty consultation</td>
</tr>
<tr>
<td>Upgrade dial-in facilities supporting non-resident access to campus and global resources</td>
<td>HETI &amp; College; 5</td>
<td>FY 2005</td>
<td>Develop operational plan; Computer &amp; Telecommunication Services</td>
</tr>
<tr>
<td>Evaluate and as appropriate, upgrade the College’s central information systems to provide greater administrative support for faculty, students and academic programs</td>
<td>College; 1</td>
<td>FY 2003 - 08</td>
<td>Banner Implementation Plan, web portal implementation and content management plan; various campus units</td>
</tr>
<tr>
<td>Use Web-based technology evaluation tools. Establish an annual evaluation process for the implementation of the technology plan.</td>
<td>N/A</td>
<td>Annually</td>
<td>Develop annual report; Computer &amp; Telecommunication Services, various technology support units</td>
</tr>
<tr>
<td>Support Recommendations</td>
<td>Fund Source</td>
<td>Time Line</td>
<td>Process; Responsible Unit(s)</td>
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<tr>
<td>Establish a Technology Roundtable</td>
<td>N/A</td>
<td>Ongoing</td>
<td>Establish and/or support facilitation and coordination groups; Office of Computer &amp; Telecommunication Services; library, Center for Instructional Media &amp; Technology</td>
</tr>
<tr>
<td>Facilitate an awareness of technology related developments in pedagogy and instructional delivery</td>
<td>N/A</td>
<td>Ongoing</td>
<td>Facilitate a forum for faculty and staff to share ideas and new developments; Center for Instructional Media &amp; Technology</td>
</tr>
<tr>
<td>Continue to encourage faculty participation in programs focused on assisting them in using technology as a pedagogical tool.</td>
<td>N/A</td>
<td>Ongoing</td>
<td>Develop operational plan; Academic Affairs, Center for the Study of Teaching</td>
</tr>
<tr>
<td>Continue the existing practice of regularly upgrading hardware, software and connectivity of instructional technology facilities. (facilities include instructional computer laboratories, electronic classrooms, interactive television classrooms, electronic facilities in large lecture rooms, and faculty and staff workstations)</td>
<td>College, ELF;1</td>
<td>FY2003-10</td>
<td>Develop annual operational plan; Office of Computer &amp; Telecommunication Services, Media Services, w/ Academic Affairs and faculty consultation</td>
</tr>
<tr>
<td>Install additional instructional computer laboratories to meet growing demand.</td>
<td>College, ELF, HET;2</td>
<td>FY 2004-07</td>
<td>Address within facilities master plan; Facilities Planning, Office of Computer &amp; Telecommunication Services, Center For Instructional Media &amp; Technology, w/ Academic Affairs and faculty consultation</td>
</tr>
<tr>
<td>Continue the existing practice of adding electronic classrooms to meet growing demand.</td>
<td>College, ELF;2</td>
<td>FY2003-10</td>
<td>Develop annual operational plan; Office of Computer &amp; Telecommunication Services, Media Services, w/ Academic Affairs and faculty consultation</td>
</tr>
<tr>
<td>Support Recommendations</td>
<td>Fund Source</td>
<td>Time Line</td>
<td>Process; Responsible Unit(s)</td>
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<tr>
<td>Develop facilities master plan</td>
<td>College;1</td>
<td>FY 2004</td>
<td>Develop plan; Facilities Planning, technology support units</td>
</tr>
<tr>
<td>Develop technology needs assessment process .</td>
<td>N/A</td>
<td>FY 2005</td>
<td>Develop methodology; Coordinated by Office of Computer &amp; Telecommunication Services, and involving Center for Instructional Media &amp; Technology &amp; Library</td>
</tr>
<tr>
<td>Enhance the existing support structure to provide support service beyond the established business hours of the institution.</td>
<td>College;4</td>
<td>Ongoing</td>
<td>Assign task to responsible unit managers; College wide.</td>
</tr>
<tr>
<td>Establish a mechanism for user support that will provide a single point of contact for technology problem resolution.</td>
<td>College;2</td>
<td>FY 2004-05</td>
<td>Develop operational plan; Office of Computer &amp; Telecommunication Services, Center for Instructional Media &amp; Technology, Library</td>
</tr>
<tr>
<td>Publicize existing resources to the campus community, focusing on each department in turn throughout the semester (e.g., Library Awareness Week)</td>
<td>N/A</td>
<td>Ongoing</td>
<td>Assign task to responsible unit managers; various technology service units</td>
</tr>
<tr>
<td>Provide budgetary resources for the ongoing training of technical staff.</td>
<td>College;3</td>
<td>Ongoing</td>
<td>Develop annual budget request; various technology service units</td>
</tr>
<tr>
<td>Use Recommendations</td>
<td>Fund Source</td>
<td>Time Line</td>
<td>Process; Responsible Unit(s)</td>
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<tr>
<td>Establish and maintain a program for technology literacy</td>
<td>N/A</td>
<td>FY2004 - 05</td>
<td>Develop Operational Plan/Proposal; Academic Affairs, faculty consultation</td>
</tr>
<tr>
<td>Establish and maintain a program for information literacy</td>
<td>N/A</td>
<td>FY2004 - 05</td>
<td>Develop Operational Plan/Proposal; Academic Affairs, faculty consultation</td>
</tr>
<tr>
<td>Provide additional instructional technology resources, on a 24 x 7 basis.</td>
<td>College; 5</td>
<td>Ongoing</td>
<td>Evaluate current services and develop plan/proposal; various units responsible for instructional support</td>
</tr>
<tr>
<td>Establish guidelines in each instructional content area for software selection and upgrade</td>
<td>N/A</td>
<td>Ongoing</td>
<td>Develop written guidelines; Academic Affairs, faculty consultation</td>
</tr>
<tr>
<td>Evaluate additions or modifications to technology resources to assure that the user interface is consistent and clear.</td>
<td>N/A</td>
<td>Ongoing</td>
<td>Include evaluation in technology upgrades and enhancements; units that are expanding or modifying technology resources</td>
</tr>
<tr>
<td>Establish a single point of contact for all technology assistance needs.</td>
<td>College; 2</td>
<td>FY2004</td>
<td>Develop operational Plan/Proposal; Office of Computer &amp; Telecommunication Services, Center For Instructional Media &amp; Technology, other technology support units</td>
</tr>
<tr>
<td>Expand and enhance instructional, social and administrative services for evening, weekend and distance learning students</td>
<td>College; 4</td>
<td>FY2004 and Ongoing</td>
<td>Review and as appropriate revise service delivery to meet recommendation; college-wide</td>
</tr>
<tr>
<td>Inter and Extra-campus Recommendations</td>
<td>Fund Source</td>
<td>Time Line</td>
<td>Process; Responsible Unit(s)</td>
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<tr>
<td>Continue to explore and develop, as appropriate, partnership with institutions in the public and private sectors.</td>
<td>N/A</td>
<td>Ongoing</td>
<td>Develop operational plan; various units</td>
</tr>
<tr>
<td>Assume the role of leader in southern NJ relating to information technology use, education and training.</td>
<td>N/A</td>
<td>Ongoing</td>
<td>Develop operational plan; Academic Affairs, SRI (ETTC), Office of Computer &amp; Telecommunication Services, Center for Instructional Media &amp; Technology</td>
</tr>
<tr>
<td>Continue to provide access to national and global networks and insure that sufficient bandwidth is available to meet the increasing data communication needs of the institution.</td>
<td>College HETI;1</td>
<td>Ongoing</td>
<td>Implement through NJEdge.net; Office of Computer &amp; Telecommunication Services, SRI</td>
</tr>
<tr>
<td>Incrementally develop the capacity to carry out distributed learning in support of degree programs and continuing education.</td>
<td>College;2</td>
<td>Ongoing</td>
<td>Develop operational plan/proposal; Academic Affairs, faculty consultation</td>
</tr>
<tr>
<td>Develop partnerships that will permit the College to capitalize on the capabilities of NJEdge.</td>
<td>N/A</td>
<td>Ongoing</td>
<td>Identify network capacity and institutions with mutual interests and then establish formal agreements; Center for Instructional Media &amp; Technology</td>
</tr>
</tbody>
</table>
SUPPORTING DOCUMENTS

Following are a list of document that have been referenced in this plan.

*Instructional Delivery In The Age of the Electronic Highway* (1994),

*Building the Necessary Infrastructure to Support a Distributed Learning Environment* (2001)

*Middle States Library and Learning Resources Committee Self Study Report on Academic Computing* (2001)

*Vision 2010*