

Information Technologies Strategic Plan to 2009



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Executive Summary

The *Information Technologies Strategic Plan to 2009* is a companion plan to Bergen Community College's *Strategic Plan to 2008*. It was developed by an interdisciplinary task force of over 20 staff and faculty members representing the broad views of the various College constituencies (See Appendix 1.) Focus groups of additional staff and students were used to provide a picture of the expectations for information technologies at the College for the next three years. The key results of this effort were seven goals:

- **Technology Fluency** across the college community.
- **Technology Infrastructure** excellence.
- **Enhanced Access** for all stakeholders.
- **Security** of information technologies **and Availability** of network assets.
- A **Governance** model that embraces the diversity of the College's information technologies stakeholders and provides a sound foundation for the future.
- **Enhanced Teaching and Learning** through excellence in technology.
- **Expanding Capabilities** of the College in its ability to recruit and support the students, faculty, and staff through technology.

Introduction

Founded in 1965, Bergen Community College is a large, diverse, and comprehensive community college. Over 100 academic programs are offered through Associate of Arts, Associate in Science, and Associate of Applied Science degree and certificate programs. In the Fall 2005, enrollment in the College's credit programs reached 14,762, with 8,700 students enrolled in noncredit and professional development courses offered through the Division of Continuing Education, the Institute for Learning in Retirement, and the Ciarco Learning Center.

Bergen Community College programs prepare students for transfer to four year colleges and universities, or for immediate entry into a career. Since its inception, Bergen offers both open and restricted admissions, small classes, affordable tuition, dedicated faculty, outstanding student services, flexible scheduling, and a student-centered campus. Admission to some Allied Health programs is restricted.

At Bergen, students have opportunities to discover their full potential, to open their minds, and expand their perspectives. Although they enroll for their own reasons, Bergen's incredibly diverse students share dreams of academic success and personal fulfillment. Students come to Bergen because of the excellent academic and career programs, state-of-the-art facilities, and superb faculty. Students are given rare opportunities to learn and to lead. Bergen Community College affords a supportive environment where individuals, sharing common dreams, can realize their various ambitions.¹

Background

In the mid to late 1990s, Bergen Community College began its first formal information technology strategic planning process. The areas of focus were curriculum, technology, finance, physical plant, human resources, and collaborative ventures. This effort resulted in a *Strategic Technology Plan* adopted by the Board of Trustees in 1998. It called for:

- A lifecycle replacement strategy to ensure current technology
- Implementation of a broadband network across the campus for voice, data, and video
- Implementation of a strong platform of desktop computing for students, faculty, and staff
- Implementation of WebCT to provide a distance learning platform
- Implementation of the Datatel Colleague ERP system
- Implementation of remote access to library services

These strategic goals of the 1998 have been accomplished.

Because of changes in the information technologies environment and because the College believes the effective deployment of information technologies is vital to its long-term success, in the Fall 2005, Vice President of Technology, Information Services, and Institutional Effectiveness, Dr. Michael Redmond charged Edward Pittarelli, the Director of Technologies, and Jack Dirr, Chair of the College Technology Governance Committee with the responsibility to create a new information technologies strategic plan.

¹ Bergen Community College Strategic Plan to 2008, p. 1.

Our Process

The specific planning process used for development of the information technologies strategic plan is a modification of the organizational transition methodology described in *Organizational Transitions* by Beckard and Harris. This methodology is based upon the principle that:

... a core dilemma for executives and leaders is how to maintain stability in their organizations and, at the same time, provide creative adaptation to outside forces; stimulate innovation; and change assumptions, technology, working methods, roles and relationships, and the culture of the organization itself.²

Within the Beckard and Harris methodology, Bergen Community College has adapted the following planning approach for its use.

- Development of a “future state” vision of how the use of information technology, in its broadest definition, should add value in support of the college’s vision, mission, and goals.
- Development of guiding principles that should govern the decisions and actions concerning information technology and that are aligned with the mission and goals of the institution.
- Development of planning assumptions that details the environment in which the college currently exists.
- Development of goals and strategies, aligned with the institutional vision, mission, and goals, to enable BCC to move forward toward its desired “future state” in accordance with the guiding principles.

As a first step, an Information Technologies Strategic Planning Task Force was formed. (See Appendix 1) Members were chosen based on their knowledge of Bergen Community College, active participation in advancing the mission of the College, diversity of use of technology, and ability to represent all areas of the College. In choosing these individuals, the goal was to focus upon members who understood the importance of information technologies for accomplishing the College’s Mission, but to avoid assembling a committee of technology “power users”. In addition, a plan was designed, in collaboration with the College’s Office of Public Relations, to conduct internal scanning by using employee and student focus groups.

The Information Technology Strategic Planning Task Force met for two day long sessions in late 2005, crystallizing a vision for the next three years and then developing the underlying guiding principles, planning assumptions, goals, and strategies. The second meeting included the incorporation of data from the focus groups of employees and students, and an alignment between the proposed information technologies strategic goals and the College’s Strategic Priorities.

² R. Beckhard & R. T. Harris, **Organizational transitions: Managing Complex Change** (Reading, MA: Addison-Wesley, 1987) p 1.

Additionally, relevant materials from technology-related resources such as EDUCAUSE and Gartner were reviewed to identify technology trends in Higher Education. Relevant trends were incorporated into our strategic planning goals and priorities. (These sources are listed in Appendix 3.)

Internal Environmental Scan

The internal environmental scan is characterized by significant advances in technology deployment since the creation of the prior strategic plan, the growth of the college in the past five years, in terms of students and physical space, the continuing rapid advancement of technology, and an economic climate that has deteriorated.

Existing Information Technology

Infrastructure

Bergen Community College is interconnected by a high speed IP network that provides the infrastructure for data video and voice communication throughout all areas of the college. The core of the college network consists of redundant multilayer switches capable of communication speeds of 10 Gigabits per second. Fault tolerant fiber optic connections to intermediate switches provide highly available network uplinks to all areas of the Paramus campus. The Ciarco Learning Center, located in Hackensack, NJ, utilizes a dedicated T1 telecommunications link to access network resources in the main campus.

Access to the Internet and high speed IP video networks is provided through a connection to NJEdge, New Jersey's broadband statewide network. Bergen Community College's Internet accessible servers are located in a demilitarized zone, protected by redundant firewalls and an inline intrusion prevention device. Bandwidth management of network traffic from these servers is controlled by a packet shaping appliance designed to provide prioritized access to mission critical systems and e-mail is filtered across antivirus and spam prevention gateways. All college servers are located behind intrusion prevention devices and centralized logging and systems management have been combined with documented policies and processes to assist the college in providing security and compliance to its information.

Bergen Community College provides many technology resources through servers located in the College Main Distribution Frame (MDF). Servers and equipment in this area are provided with a temperature and power controlled environment with UPS and electrical generator backup. Primary data storage for critical college systems is provided by a clustered Storage Area Network (SAN), providing over 6 TB of highly available storage to college servers. System and network monitoring services are in place to automate the detection of power, system, or application failures of network servers.

User document files are automatically saved and backed up on our NAS, providing a high level of protection to the critical data used by our faculty and administration. This architecture also allows a user to log in anywhere on campus with full access to their document files.

Smart Classrooms

The Paramus (main) and Ciarco Learning Center campuses have 95 Smart Classrooms equipped with ceiling-mounted video projectors, DVD players, VCR players, instructor's computers, and document cameras. These classrooms have wall-mounted controls for ease in picking sources for the projector and remote management capability via the College IP network. Spacious workstations provide plenty of room to accommodate instructors' needs.

General Computer Laboratories

The combined campuses have over 33 general purpose computer labs including 3 free-time labs and 102 computers for student use in the library. These labs are available during the semester for classes and free time use six days a week from morning until night. In addition, the library facility is also open on Sunday, during the semester. Printing facilities are also provided throughout the campuses to allow students to complete their assignments. All of the computers are also equipped with the ability to write to both flash drives and CDs to allow students to save their work.

Dedicated Laboratories

There are over 25 dedicated laboratory classrooms on the Paramus (main) and Ciarco Learning Center campuses. These include a computer animation and music lab, several Information and Network Technology laboratories, Allied Health laboratories (Dental, Ultrasound, etc.), CAD/CAM, and a full manufacturing engineering technology lab located in the Technology Education Center (TEC).

Web Services

A key component of Bergen Community College's interface with its students is through a rich set of Web services. Among other things, students can register, pay, and check grades through a Web-based interface to the College's ERP system. The College's distance learning courses are also accessible through the web site, as are web enhancements for class room based courses.

The College is currently deploying an online admissions portal that will greatly streamline the admissions process and will be used to recruit new students.

Web Site

The College's web site is based on the Site Builder Content Management System. This allows the content managers in each organization to easily and effectively manage the content on their web pages, insuring accuracy and relevancy of content. The web site includes not only the operational pages for the various areas of the College, but also a set of faculty pages that provide a dedicated address for each faculty member.

Distance Learning

Distance Learning (online courses) is provided through the College's WebCT 4.1 course management system. Over online 100 courses are currently offered. Additionally, over 30 hybrid courses, where student's class time is split between online and on campus are offered. Many instructors also use web services to enhance their courses. Over 45 professors have taken The Online Professor Program (TOPP) to prepare to teach online and hybrid courses. In Spring, 2006, the faculty is delivering over 2500 credit hours of online instruction.

Portable Technology

Faculty and staff have the availability of both carts equipped with laptops and PET stations that provide a full video projector environment for a classroom or meeting room.

Desktop/Laptop Technology

The College has over 2400 Intel based desktop and laptops in service at the present time along with approximately 100 Apple Macintosh computers. Lifecycle replacement programs ensure that desktops are current. In most instances, desktops are replaced every four years. The Intel based computers have processors of 2.6 GHz or higher. All College Intel computers are loaded with Microsoft Office Suite 2003, and use the Windows XP Pro operating system.

Organization Structure

In 2005, the College created the position of Director of Technologies to manage the areas of the Office of Information Technology, Center for Instructional Technology, and the Media Technologies Department. The prime organization supporting Information Technology is the Office of Information Technology (OIT) which has responsibility for the network infrastructure, desktop and laptop support, and server support. The Center for Instructional Technology (CIT) supports the information technology hardware and software needs of the dedicated laboratories as well as the needs of the Distance Learning environment. The CIT also provides online and on campus training for faculty and staff in the use of software, development and delivery of online courses. The Media Technologies Department is responsible for the Educational Broadcast Center, media support for all public campus events, smart classrooms, video conference centers, and provides technical support to College instructional programs that use its facilities.

New College Facilities

In the intervening years since the development of the 1998 strategic plan, the Technology Education Center (TEC) building opened (2002) with state of the art smart classrooms, a video conferencing center, a fully equipped manufacturing laboratory, an information commons, and two domed observatories. The TEC building also houses the Moses Family Meeting and Training Center which can accommodate up to 300 people. Boasting the latest multimedia and Internet technologies, the Center is becoming a high-tech showcase in the tri-state area. Key features include: access to well-equipped computer labs, wireless connectivity throughout the facility, video conference capabilities including satellite up and downlinks, and multimedia systems. Currently under construction is a West Hall, the new home of the Media Technologies Department, the studios they support, and high technology classrooms and laboratories for fine and graphic arts and music.

Focus Groups

A series of focus groups were used to gain additional input to this plan. (See Appendix 4.) Participants included approximately an equal number of both employees (faculty and staff) and students. The areas probed were use of technology, what you would like that you don't have now, what impediments to your job are caused by technology, and. what technology is working well.

The list of use of technology was inclusive and totaled almost 60 items. Many of the responses related to technology supported the academic area with distance learning uses leading the way. Additional responses centered on the use of Datatel's Colleague ERP system for support of the College's operations.

The responses in the area of like to have centered around remote access to applications currently available only on campus. Other responses included web and Pod casting of classes, need for document management to reduce paper, and customizations of technology to specific programs.

In the area of technology impeding the job function, printing issues dominate the list, with other areas including support of training for Corporate clients, insufficient free time lab space, better video projection for science labs, and limited availability of wireless connectivity.

In the area of technology working well, the VOIP phone service, smart classrooms, and library access led the way. Additional areas that were cited included the suite of office software provided, Datatel's Colleague and WebAdvisor, and the WebCT distance learning platform.

Middle States Self Study

Surveys associated with the Middle States Self Study revealed that 74.2% of students, 91.3% of administration, and 92.5% of faculty report a high level of satisfaction with the computing technology and access on campus.³

³ Bergen Community College Middle States Self-Study 2005-2006, p. 37.

External Environmental Scan

Reviews of technology-related resources, such as Gartner Group reports, highlighted a number of technology trends that should be considered. Among the top technologies likely to play a significant role in higher education in the near to intermediate future are:

- Introduction of personal electronic devices and personal broadcasting devices, enabling users to capture and deliver text, audio, and video. Examples of this are audio and video delivery methods such as podcasts and video blogging (vlogging).
- Expansion of wireless connectivity, as most new laptop computers are now equipped with wireless access and many public hotspots are appearing across the community.
- Greater adoption and use of standards, protocols, and policies governing the use of information technologies.
- Expanded use of social computing applications in education will make use of technology resources to increase collaboration, knowledge-sharing, and collective decision-making. From writing and research to video and music, collaboration technologies will likely find a number of applications in distance learning and training.
- Security and identity management are often identified as top Information Technology issues in Higher Education. The increased use computing resources and growing need for current security technologies indicates a need to expand the use of effective security practices and technologies throughout the college community. With IT funding identified as a critical challenge, it is imperative that technology decisions remain well aligned with business processes.
- Increased use of peer to peer applications. A good example of this is the rapid growth of Skype, an Internet telephony provider.

Challenging Economic Forecast

The college is funded through three primary sources: student tuition, state funding and county funding. The State of New Jersey is currently in a state-wide financial crisis, and the college is the second lowest recipient of county funding per FTE of community colleges in the state. With these constraints, BCC expects no more than modest increases in the absolute dollars in state and county funding over the next three years.⁴ The result will be resources for technology spending will become scarcer than they have for the recent past. More than ever, technology initiatives will have to demonstrate return on investment sufficient to justify their costs. Greater emphasis will be placed on the effective use of existing information technologies resources and maintaining the currency of existing information technologies assets rather than the introduction of new technology initiatives.

⁴ Bergen Community College Strategic Plan to 2008, p. 8.

Envisioning the Future⁵

Bergen Community College envisions “a learning community which values the contributions of all students, staff, faculty, and administrators in order to provide an unparalleled educational experience”. (from the Bergen Community College Vision Statement)

The future at BCC promises a seamless learning environment that allows instructors and students, whether on campus or in the community, to access information from both local and remote sources. In this media-rich and information-dense learning environment, students will be able to choose the most appropriate learning modality, whether online, face-to-face, or partially online (hybrid).

The college’s educational programs and services will blend the physical and virtual resources to expand BCC’s ability to reach out to the community and the region, creating an integrated learning environment blending both on- campus and online learning.

The projected enrollment increases will probably exceed the capacity of the present “brick and mortar” structures at the college.⁷ Other major factors that will drive online courses are the number of high school students using the courses as a means to enhance their high school experience and grade 5-12 teachers using the online courses to meet new State and Federal licensing requirements.

Students

- ◆ Because of the easy access to online education, students will have the option of choosing from a variety of institutions to assemble a program of study rather than picking one or two institutions.
- ◆ Many BCC students will have become familiar with the College before high school graduation through the College’s admissions Web site and distance learning programs.
- ◆ Electronic transcripts will be the norm and integrated into the College ERP system.
- ◆ Students will expect that all instruction be delivered in a variety of modalities, so that it will be possible for students to pick what works best for them.
- ◆ A greater number and percentage of enrolled students will be technologically-prepared for and will expect to be offered more flexible DL options.
- ◆ Students will be expected to be sufficiently technologically fluent when they leave Bergen Community College for successful transfer to four year institutions or for entry level employment and local employers will value BCC graduates for their technology literacy.

⁵ This section relies heavily upon research done in preparing the College’s **Distance Learning Tactical Plan**.

⁶ **Bergen Community College Strategic Plan to 2008**, p. 8.

Curricula

- ◆ Advances in digital networks will allow remote access to equipment at research universities and specialized laboratories, dramatically enhancing the student learning experiences and opening new possibilities for advanced curricula at community colleges.
- ◆ The distinction between DL classes and other classes will have broken down. Most classes, if not all, will make use of DL tools to expand the learning space. Purely online courses will simply be one end of a spectrum.

Faculty

- ◆ There will undoubtedly be many issues regarding faculty at BCC. The scenarios that follow are painted from a more generalized viewpoint of projections, not only at BCC, but in higher education in general.
 - Advances in communication will make it increasingly easier for colleges to utilize people at remote locations. This will change the conception of what a faculty member is, and the composition of faculty at colleges, as well as pose challenges to faculty governance. Colleges that are successful here are the ones that find new models for the engagement of part time faculty.
 - Online technologies and advances in video conferencing will allow instructors to make better and more extensive use of subject experts from industry, business, and research in the classroom. A wider range of students will be exposed to leading experts in relevant fields.
 - Due to advances in electronic communication technologies, sharing the classroom or learning space with colleagues (including those from other institutions) will be more commonplace.
 - Many institutions will hire faculty who teach:
 - Both on-campus and online as full-time faculty.
 - Both on-campus and online as adjunct faculty.
 - Online only – these faculty members may never come to campus and could be located several states or a continent away.

Developing a Direction

Information Technology Vision Statement

BCC is committed to technology leadership for excellence in education and training for the future of the community

Just as this information technologies strategic plan is a tool with which an institution can chart a course and make progress toward its accomplishment, a shared vision charts an emotional course for the institution, giving a sense of direction and rallying point. It is intentionally meant to be “from the heart” and provides a sense of what “fits” and what does not. The information technologies vision is a common picture of an institution’s use of technology in the future. It is a broad statement that defines the parameters of future decision-making and an ideal state toward which the institution strives.

The Bergen Community College Information Technologies vision statement cannot stand alone. As the Information Technologies Strategic Planning Task Force articulated their Information Technology Vision statement, they kept in mind the mission and philosophy of the college. It is important that the Information Technologies Vision be aligned with the purpose and foundations of Bergen Community College so that the entire organization moves forward in the same direction. The vision that has been developed links very tightly with the College’s vision statement in providing a platform to realize the vision and with the mission statement by providing the technological capabilities to be an educational leader. The College’s Vision and Mission statements can be found in Appendix 2.

Guiding Principles

Bergen Community College IT Guiding Principles

- *Whenever possible, leading edge technology is used to deliver academic content to the community*
- *Technology literacy and competency is seen as an important way to enhance the quality of life for the community*
- *Effective use and support of technology is necessary to help develop and enable best practices within the institution*
- *An integrated information system facilitates the protection of individual and institutional assets and rights*
- *BCC is committed to providing resources to the college constituencies to ensure opportunities to remain at the forefront of technology use and education*
- *The availability and utilization of state-of-the-art technology empowers students, faculty and staff to accomplish their educational tasks efficiently and effectively*
- *Leverage network resources and services to meet current and future technology and information needs*
- *BCC technology leadership is demonstrated by routine evaluation of new technologies and the systematic implementation of those that benefit our constituencies*
- *Effective use of technology is seen as a key factor in ensuring that our high quality educational programs produce society's future leaders*
- *All members of the BCC community have effective access to current technologies appropriate to their learning needs and/or professional responsibilities*
- *Information technology provides state-of-the-art technology to meet the needs of a culture, ability, and age diverse student body*

Making progress toward the ideal information technology state defined in the information technologies vision statement above requires making numerous difficult decisions and choices. Because these future decisions and choices should not take place in a vacuum, the information technologies strategic planning task force sought further to develop standards that could be used to assist in the decision-making process. In addition, was essential that these guiding principles have a strong and defined linkage to the core values of the College.

The Guiding Principles reflect how institutional members should relate to one another, how they should operate, and how they should compete in terms of technology throughout the organization. In addition, these information technologies Guiding Principles are in alignment with the college's core values and lend support and definition to the mission of the institution.

As decisions are required, the principles are designed to help guide actions when choices are not clear. They are meant to provide a context for consistent decision-making that is not just focused on doing things right, but on doing the right thing.

Information Technologies Strategic Priorities

As a result of the work of the Information Technologies Strategic Planning Task Force, seven information technologies strategic priorities were identified to guide the College through the 2009. They are:

Goal 1: Technology Fluency

Promote information technology fluency on campus through the effective support of technology, training opportunities, and the adoption of technology enabled business processes.

Goal 2: Technology Infrastructure

Maintain a reliable and scalable information technology infrastructure, enabling innovative uses of technology for educational excellence.

Goal 3: Access

Improve and enhance access to online information resources required to effectively accomplish College objectives.

Goal 4: Security and Availability

Maintain a secure campus information technology environment, insuring the confidentiality, integrity and availability of critical information and systems.

Goal 5: Governance

Develop information technology policies, standards, and practices that efficiently and effectively manage information technologies assets and meet the technology needs of the College.

Goal 6: Enhance Teaching and Learning

Provide an information technology environment for teaching and learning that is among the finest in the nation.

Goal 7: Expanding College Capability

Optimize the use of information technology to increase enrollment, to provide effective technology solutions to College needs, and to develop flexible service options for students, faculty, and staff.

Aligning with Institutional Strategic Priorities

It is important that our information technologies strategic priorities align with the College's Strategic Plan. The diagram below demonstrates this alignment. The full text of the College's Strategic Priorities can be found in Appendix 2.

	Goal 1 - Technology Fluency: Promote information technology fluency on campus through the effective support of technology, training opportunities, and the adoption of technology enabled business processes.	Goal 2 - Technology Infrastructure: Maintain a reliable and scalable information technology infrastructure, enabling innovative uses of technology for educational excellence.	Goal 3 - Access: Improve and enhance access to online information resources required to effectively accomplish College objectives.	Goal 4 - Security and Availability: Maintain a secure campus information technology environment, insuring the confidentiality, integrity and availability of critical information and systems.
Institutional Priorities				
1. Support Student Success: Promoting a Positive Climate for Learning	X	X	X	X
2. Value and Empower Faculty and Staff: Supporting our Human Resources	X		X	X
3. Promote Communication: Building an Informed Community			X	
4. Increase Capacity: Planning for the Impact of our Growth	X	X	X	X
5. Institutionalize Assessment and Planning: Reflecting on What We Do		X		X

	Goal 5 - Governance: Develop information technology policies, standards, and practices that efficiently and effectively manage IT assets and meet the technology needs of the College.	Goal 6 - Enhance Teaching and Learning: Provide an information technology environment for teaching and learning that is among the finest in the nation.	Goal 7 – Expanding Capability: Optimize the use of information technology to increase enrollment, to provide effective technology solutions to College needs, and to develop flexible service options for students, faculty, and staff.
Institutional Priorities			
1. Support Student Success: Promoting a Positive Climate for Learning	X	X	X
2. Value and Empower Faculty and Staff: Supporting our Human Resources	X	X	X
3. Promote Communication: Building an Informed Community	X		
4. Increase Capacity: Planning for the Impact of our Growth	X	X	X
5. Institutionalize Assessment and Planning: Reflecting on What We Do	X	X	

Realizing the IT Strategic Plan

Information Technology Strategic Goals

The Information Technologies Strategic Planning Task Force identified the following strategies as tactics to accomplish its strategic planning goals. Strategies and tactics must take into account changes in the external and internal environment, and so they must be understood as provisional.

Goal 1: Technology Fluency

Promote information technology fluency through the effective support of technology, training opportunities, and the adoption of technology enabled business processes.

STRATEGIES

- 1.1 Support the college's effort to identify and adopt criteria for technology fluency and use and provide the training opportunities necessary to allow the faculty and staff to meet these criteria
- 1.2 Provide a framework for technological professional development and training for faculty and staff
- 1.3 Investigate and provide appropriate training and access for technology.
- 1.4 Improve the availability of technical support documents on the College's technologies web sites
- 1.5 Support the faculty in providing students with online technologies and learning experiences that increase information literacy and workforce preparedness.
- 1.6 Evaluate Help Desk services in regard to 24 x 7 distance learning.

Goal 2: Technology Infrastructure

Maintain a reliable and scalable information technology infrastructure, enabling innovative uses of technology for educational excellence.

STRATEGIES

- 2.1 Establish campus-wide wireless connectivity
- 2.2 Provide adequate network "bandwidth" both on campus and to the Internet
- 2.3 Identify methods and practices to better manage printers and printing
- 2.4 Expand college capabilities through technology, including multimedia desktop technologies.

Goal 3: Access

Improve and enhance access to online information resources required to effectively accomplish College objectives.

STRATEGIES

- 3.1 Evaluate the provision of remote access to primary college information resources
- 3.2 Improve remote management to all of our smart classrooms and video conference systems
- 3.3 Expand and improve access to online, web-based information and services for the BCC community
- 3.4 Create master calendar for events with links to forms for work orders and other requirements
- 3.5 Develop processes and procedures to increase accuracy of student email information to support more effective communication with students.
- 3.6 Use web technology to better communicate all policies and procedures to faculty, staff and students.
- 3.7 Provide as universal access to technology as possible.

Goal 4: Security and Availability

Maintain a secure campus information technology environment, insuring the confidentiality, integrity and availability of critical information and systems.

STRATEGIES

- 4.1 Enhance availability of systems through disaster recovery planning
- 4.2 Enforce secure and effective access to technology resources through use of authentication and identity management technologies

Goal 5: Governance

Develop information technology policies, standards, and practices that efficiently and effectively manage IT assets and meet the technology needs of the College.

STRATEGIES

- 5.1 Develop a plan and budget for appropriate college wide technical support
- 5.2 Simplify, streamline and automate business processes where appropriate
- 5.3 Reevaluate existing and identify new critical technology policies for the college
- 5.4 Define criteria for mission critical systems and applications
- 5.5 Create a formal, broad-based technology governance process which includes input from major stakeholders
- 5.6 Support the technology needs of the college wide business process redesign
- 5.7 Support the technology needs of specialized labs

Goal 6: Enhance Teaching and Learning

Provide an information technology environment that fosters excellence in teaching and learning that is among the finest in the nation.

STRATEGIES

- 6.1 Support creation of online, collaborative web based communities for students
- 6.2 Develop a student support system for distance learning, including readiness assessment, training, and technical support
- 6.3 Identify, investigate and adopt appropriate technologies which will enhance every class section, serve a new generation of learners, and expand student learning opportunities and access
- 6.4 Continue to evaluate new course delivery technologies
- 6.5 Enable convenient and efficient access to educational resources through the use of portable technologies.
- 6.6 Identify unique needs to improve instructional support for adjunct faculty
- 6.7 Continue to support professional development 6.8 Identify, develop and promote training programs to meet the unique needs of online, hybrid, and web-enhanced courses (i.e., expanded use of TOPP)
- 6.9 Identify, develop and promote technology related professional development for faculty.

Goal 7: Expanding Capability

Optimize the use of information technology to increase enrollment, to provide effective technology solutions to College needs, and to develop flexible service options for students, faculty, and staff.

STRATEGIES

- 7.1 Provide technology support for recruiting efforts to K-12 districts and the adult learning community to increase demand for online courses.
- 7.2 Market the college's technology strengths
- 7.3 Implement a user portal complete with robust personalization features.
- 7.4 Deploy a college wide document management system.
- 7.5 Support institutional renewal activities of the Center for Institutional Effectiveness by deploying appropriate technologies.
- 7.6 Assist departments with matching appropriate technologies to business needs.
- 7.7 Define and provide efficient integration of document management technology with redesigned business processes
- 7.8 Significantly increase number and/or effectiveness of online and hybrid courses and program offerings to enable growth in student enrollment capacity

Conclusion

Bergen Community College has a strong information technologies infrastructure to build on, and the Middle States Self-Study documented that general satisfaction on campus about the state of information technologies. Many of the issues identified by the Task Force were those of expanding and broadening awareness of capabilities; expanding access; increasing technology fluency; and creating an effective governance structure. The Information Technology Strategic Goals identified address these issues and provide a foundation for tactical and operational planning.

Appendix 1

Task Force Members

Name	Title
1. Anita Verno	Assistant Professor, Business
2. David Hadaller	Assistant Academic Vice President
3. Diane Mandrafina	Controller
4. Ed Pittarelli	Director of Technologies
5. Francis Schmidt	Professor, Arts & Communications
6. Gary Porter	Academic Vice President
7. George Cronk	Professor, Philosophy & Religion
8. Jack Dirr	Manager of Media Technologies
9. Javier Leon	Executive Director, Information Technologies
10. Joann Marzocco	Professor, Science and Technology
11. Joanne Diamantidis	Assistant Professor, Science and Technology
12. John Patierno	Professor, Social Science
13. Mark Thompson	Assistant Director, Library, Patron Services
14. Marty Lowe	Assistant Professor, Science and Technology
15. Matt King	Associate Professor, Science and Technology
16. Michael Redmond	Vice President Technology, Information Services and Institutional Effectiveness
17. Mike Echols	Instructor, Arts & Communications
18. Nancy Carr	Director, Specialized Services
19. Paul Almonte	Dean, Arts & Humanities
20. Peter Shapiro	Coordinator, Center for Instructional Technology
21. Priscilla Klymenko	Director, Enrollment Services
22. Raj Singh	Director, Human Resources
23. Richard Kuiters	Assistant Professor, Social Science
24. Roanne Angiello	Professor, Business
25. Shawn Kane	Technical Assistant, Media Technologies
26. Susan Barnard	Assistant Professor, Allied Health
27. Tom Jewell	Assistant Professor, Arts & Communications
28. Walter Hecht	Assistant Dean, Ciarco Learning Center
29. Warren Conditi	Technical Web master
30. Barbara Eisen	Program Supervisor, Continuing Education

Appendix 2

Bergen Community College Vision Statement

As the college moves into the twenty-first century, our vision is that of a learning community which values the contributions of all students, staff, faculty, and administrators in order to provide an unparalleled educational experience. We will support an ongoing process of improvement through continued assessment of our vision, values, practices, and mission.

A Learning Community

We will develop the best possible educational environment, on that promotes learning, collaboration, and shared responsibility. Using proven technological advances and a variety of instructional methods, we will enhance the learning process and maintain high academic standards.

A Service Community

We pledge to evaluate and improve our services continuously and to communicate more effectively, creating an atmosphere of civility and trust.

A Diverse Community

We will respect the integrity of all persons and will build an inclusive community, enriched by its diversity.

A Partnership Community

We will create partnerships with public and private institutions in fulfilling our mission. We will be vital and informed participants in the life of our county, state, and country, responsibly using all public resources in the most efficient manner.

Finally, we welcome future challenges and are willing to take the initiatives necessary to continue to be a leader among community colleges.

Bergen Community College Mission Statement

Bergen Community College provides high quality, relevant, and varied educational programs and opportunities for the intellectual, cultural, and personal growth of all members of its community. The College values its role as an educational leader, embracing change and responding to the complex needs of those it serves.

Goals

To offer credit and non-credit educational programs that are comprehensive and diversified, providing students with the knowledge and skills necessary to transfer to baccalaureate programs, to achieve employment goals, and to enhance personal and professional growth through lifelong learning.

To provide supportive services and leadership opportunities in an environment that enables and encourages students to achieve their educational and professional goals and to develop their social skills.

To provide cultural programs that are of interest to a diverse community and that engage and enrich the audience through a range of creative expression.

To collaborate with educational institutions, community organizations, public agencies, businesses, and employee groups to enhance opportunities for learning and for the economic development of the region.

Bergen Community College Strategic Priorities

Support Student Success:

Promoting a Positive Climate for Learning

- Address needs of diverse student population
- Create proactive strategies to assist under-prepared students
- Ensure instructional responsiveness to job market
- Review career and transfer programs so students accomplish their educational goals
- Increase graduation rates of minority and low income students

Value and Empower Faculty and Staff:

Supporting our Human Resources

- Establish clear college governance processes
- Revitalize faculty and staff development
- Clarify and, where absent, create evaluation and promotion processes
- Ensure that hiring and recruitment practices meet college needs

Promote Communication:

Building an Informed Community

- Build processes for inclusive dialogue
- Respect diverse viewpoints
- Develop and publicize clearly written policies and procedures across the institution
- Structure avenues of communication and coordination of effort
- Market the competitive value of the college's tuition and fee structure

Increase Capacity:

Planning for the Impact of our Growth

- Increase enrollment capacity and ensure that college services and facilities support enrollment growth.
- Refurbish existing brick and mortar facilities
- Optimize use of technological and physical resources
- Expand partnerships with high schools and institutions of higher education
- Increase effort to secure public and private funding

Institutionalize Assessment and Planning:

Reflecting on What We Do

- Assess institutional effectiveness in order to renew institutional processes
- Use student learning outcomes assessment for curriculum revision
- Implement shared decision-making in planning
- Assess the strategic planning process

Appendix 3

External Environmental Scan References

- Gartner's Top Predictions for 2006 and Beyond
- The Horizon Report: 2006 Edition, New Media Consortium and EDUCAUSE Learning Initiative
- Top-Ten IT Issues 2005, EDUCAUSE
- Hype Cycle for Higher Education, 2005, Gartner Inc
- Predicts 2005: Higher Education Evolves, Gartner Inc
- The Campus Computing Project: The 2005 National Survey of Information Technology in U.S. Higher Education, www.campuscomputing.net

Appendix 4

Focus Group Comments

A series of focus groups were conducted throughout the planning to provide input to the IT planning process. Focus group comments were shared with the planning team at the beginning of each session. As the planning team worked through activities designed to shape the plan elements, the focus group comments were referenced.

Each focus group was asked four questions:

- How are you currently using technology at BCC?
- What/how would you like to learn (students)/ teach (faculty)/ do your job (staff and administration) that you can't now because of the technology at BCC?
- What prevents you from learning (students)/ teaching (faculty)/ doing your job (staff and administration) the way you would like to learn/teach/do your job?
- What technology is working well?

Participants included students, faculty, classified staff and administrators.

Interviews date: November 17

Total number interviewed: 49 total, 26 Employees + 23 Students

Years at institution, employees:

- Less than 5 years: 7
- Between 5 and 15 years: 12
- Over 15 years: 7
- Students ranged from: 1-5 years

Focus group participants represented the following departments and offices within the College.

Allied Health	Information Technology
Arts and Communications	Library
CIT Distance Learning	Media Technologies
Community and Cultural Affairs	Nursing
Compliance	Office of Information Technology
Continuing Education	Science and Technology
English	Social Sciences
Enrollment Services	Student Disability Services
Human Resources	

Focus Group Responses

How are you currently using technology at Bergen?

- Time – log absences, vacations, etc.
- Employment services – inputting employee information
- Reports and queries – payroll, budget,
- Checking status of student applications
- Access student class information
- Instructor schedules
- Purchasing
- Email for: correspondence w/ students and with each other; receive NJVCC registrations for online from students from other schools and vice versa; for list serves becomes resource material for staying updated on current issues in field
- Retrieve messages – voice mail and goes to email
- Correspondence of all types
- Calendaring in Outlook – shared calendars, make appointments
- To create Employee Resolutions for Board of Trustees, other employee actions
- Register students
- Transfer credits
- IPED reports
- Phone
- Internet access: order office supplies, receive applications and resumes, travel information, download transcripts, course descriptions from other colleges, share info with global others (job postings, etc.)
- Internet access: research; help desk online; access to Bergen Web site; Library systems are web based; all research databases are web based; contact w/ outside corporations; disseminating student files (online help, tutorials); Web-based conferences
- Fax, Photocopiers, Scanners, Printers
- Recruitment
- Language translation
- Check status of accreditation
- Teaching by ITV, WebCT
- Bulletin board communications w/ students
- Deliver Hybrid, online and “web-enhanced” classes
- Open enrollment training for the community
- Smart classrooms includes projectors and access to online resources
- In IT use of Fabrication labs, teaching about equipment (i.e. exploring networking technologies)
- Supplemental instruction, tutoring, Computer assisted instruction (CAI)
- In library use WebAdvisor, chat, etc. to support students and adjunct faculty
- Research via Library home page including remote access to Lib databases and beyond
- E-reserves in Lib
- Use of Portable Electronic Teaching Stations (PETS)
- IT: dedicated servers used in conjunction with classes
- Instructional design and shared online materials
- Use of wireless network access in limited areas
- Diagnostic technologies in Vet medicine area; diagnostic imaging
- Online registration
- Do research for papers
- Getting grades online
- Using presentation technology for in-class presentations (by students)
- WebAdvisor web interface for student registration, course rosters, etc
- Cell phones and MP3 players widely used by students
- Online access to bookstore
- Online placement testing
- Datatel reports
- Web-based conferences

- Meeting and training centers; AV technology that is used for programs for outside community
- Theatre technology: faculty conference (PowerPoint presentations, Internet access), community and cultural events (music groups use technology, etc)
- Teaching computer courses for Continuing Ed, Community, customized training for corporations in the county.
- Assistive technology: all over the campus for students to get access to Internet for helping reading, etc.
- Access to Outlook from home;
- Web based tools: Survey Monkey (assessment tool for people who take workshops, feedback on courses)
- Stream live and/or Teleconferencing: audio/video for instructional purposes;
- Teleconferencing via satellite;
- Creating/delivering course content for classroom work; all WebCT usage
- Training faculty to teach online, and orienting students;
- Creating presentations for conferences, etc.
- All Datatel operations for supporting business operations of the college;
- Microsoft Office suite widely used
- Web based - Customized in formation for faculty use in teaching and lab work
- Data collection in labs
- AdAstra room scheduling software

Ideally, how would you like to learn, teach, or do your job but can't due to the technology at Bergen?

- Would like to be more efficient, ex: use a document scanner – there's paper all over the office,
- Want technology system that is quicker – want my functions to “glide” along instead of “stumbling” along
- Capability of working from home – can't use Datatel from home
- Want to multitask and can't now – ex: if I want to add a student or employee to system, I have to go from student screen app to HR screen app – have to change systems each time – it is not efficient
- Some data is not private enough – many people who has access to Datatel can get personal information they want to see – temps can get info on employees especially screen NAE (student and employee)
- In using and gaining access to teaching servers and desktops, need to have better open access to systems; OIT prefers to keep it Locked Down”
- Going fwd, having remote access to office desktop PC systems could be useful
- Need to have a unified logon to WebCT, WebAdvisor and remote access Lib databases
- IN CMS systems, doing online discussions with some way of sharing ideas across course sections.
- Put in-house developed videos onto handheld devices (i.e. iPods have Desperate Housewives)
- Aspects of Tech Support to be improved in a more unified way; question of who to call for certain types of problems (i.e. projector or desktop systems) and poor communication between different technicians.
- Specialized course or teaching software, each semester must go thru special routine to make sure systems are properly configured; keeping the Ghost image up to date is sometimes not dependable; takes a lot of time to get it right;
- In teaching ITV, a PPT on the screen needs to be seen by the students at remote sites at the same time as they see instructor.
- Also need to reduce lag time in transmission
- Good to have a video tracking device for instructor that moves around the room\
- In Speech, we are “surprised” by upgrades to desktop that affects functioning of software
- The Supplemental Instruction lab is at the bottom of the OIT priority list; not enough people
- There is a nationwide movement to share online learning elements using technology in classroom and online; many faculty are not aware of what is going on in these areas; needs to be better ways to share this knowledge and information w/in Bergen. Focus on Sharing Technology information amongst Bergen faculty members.
- The PET units are good, but there needs to be more dedicated Smart classrooms

- Need easier approval from a “higher authority” in order to make it easier to be innovative in teaching
- Explore the concept of doing a live classroom feed from a space launch or inside the Shuttle or space lab
- Develop ways that instructors can tap into the wider world of information using technology
- Promote, consider, develop Cross-cultural exchanges using streaming video technology
- Provide a support program for every student to have a computer
- Provide better access to computers on campus
- Access to textbooks online!!
- Graphic design program needs better large format printing; need more computers w/ correct programs for the design courses (ex: need more open Mac labs; only one currently)
- More color printing would be good
- Provide printing in the smart classrooms
- Improve the Bergen web site to find more information!! Hard to find basic information; easy to get lost
- Develop better telephone directory information to find who/what you need
- More friendly people on the phone; get rid of automated attendants!
- Get class cancellations online in advance of classes; use text messaging as an alternate, or send a mass emailing to the class list
- Get smart card for student ID cards
- All classrooms should have visual aid capability (ex screens, projectors);
- Need pencil sharpeners
- 3D modeling of virtual images
- Web casting of audio recording of the instructor’s course lecture
- Need more scanners
- Like to be able to customize computer programs for corporate clients; must use “Ed to go” but would like someone to help customize application to help teach online; want to use more blended mode teaching; exiting programs are too canned; ;want to create them for each client;
- Need an open “testing environment” to try out new technology for teaching (ex: blogs, wikis, podcasting) and redesign existing CIT Distance learning
- Have a self contained podium that has classroom technology built in w/o always having to set it up every time;
- Deaf students watching videos that are captioned (need in-house captioning ability)
- Blind and visually impaired require use of smaller and more portable CCTV units
- More teaching labs (and classrooms) w/ overhead data projectors built in so all can see screen images
- Insufficient number of dedicated computer labs to meet need
- Need wider and reliable and supported WiFi across campus; broader access (ex: library should have WiFi across all of library; would also free up fixed computers)
- Need support for Palm and other PDA usage and/or synchronization; need more awareness of potential functionality of PDAs and then provide knowledgeable technical support; very hard to get synced for those who have them.
- Need a scheduling application for part time employees
- Customizable s/w for Theatre, ex: Scene Shop Supervisor to help keep inventory of what you have and don’t have specifically for theatre productions
- Uniformity of application software versions across campus so that training (for faculty and staff) is consistent with the version that faculty and staff have in their offices;
- Some type of room access log of who is using a lab; help to track who does what in an open lab to prevent system corruption
- Having a disaster recovery plan would be valuable

What prevents you from learning, teaching, doing your job because of the technology at Bergen?

- Technology is too slow – have to wait for sending documents and actually everything, delay in opening docs
- Printers are temperamental – on timesheets get double pages and have to turn off and then wait and try again
- Printers – when run out of paper and you put paper in, the printer then keeps printing garbage text and waste paper
- Printers – jams then have to call help desk
- Printers don't like it when you have to print lots of pages (1400 pages – timesheets for employees, 2 pages each per employee)
- When have brown out (squirrel chews on wire) then the phones go crazy and go out or blink or ring and nobody is there
- When someone goes on vacation, you can't do timesheet in advance – have to do this daily – the time recorders have to record time for those not in office
- Want a department handbook on the technology and procedures or an institutional technology handbook
- In Speech software teaching, some app s/w does not work due to desktop being “locked down”
- No dedicated large (>30 seats) smart classroom in Main bldg (Pitkin Ed center)
- Repairs are slow; response time to a request for service may be unpredictable; not sure if or when help will be coming; could wait weeks to get a repair completed in some cases.
- Unsure if there is any scheduled maintenance of classroom systems, in order to prevent failures during class sessions;
- In teaching online from off campus, can't input grades from off campus;
- Some web enhanced classes that are not clear they are web enhanced (instructor does not make use of Web even though the course description calls for it)
- When registering students and they've taken basic skills test but on the screen it still says that the student has to take the test
- Online registration needs to have all parts connected in online registration process (inconsistent communication/expectations across departments involved in the registration process)
- WebAdvisor – students don't know how to use it – need to have a person there to show them how to do it and the students have to come to the window – there's directions on how to get into the system but don't know if there are directions on after get into system – There is info that students have to enter but they don't know what that is – there is no sign that says that students can go to the student center and a student ambassador will help you – overall poor communication
- Need to be better educated on the applications on our machines – need more training
- Training classes for Faculty have gotten too repetitive; need to expand the thinking of what new things could be taught; a type of “phase 2” or advanced training; help faculty to learn newer technology applications; keep building on training to help faculty be more “inspired” in how they teach
- In Information Technology department (and other areas): provide systems areas where you can experiment, a sandbox for testing new equipment, Internet resources, technologies, etc.
- New student testing center facility is good but would be very nice to have a testing center to take proctored tests for online courses using a bank of computers where tests are online but proctored.
- There are not enough “free time” computers for students to use; particularly for online registration times there are not enough computers nor support to help them; needs to be more handholding for people who have issues w/ technology
- Support for wireless networks is not sufficient; if it isn't working there is no way to be sure if it will be working, or if it isn't, why it isn't.
- Need to ensure that incoming students have the basic skills that are required for online or other courses.
- Unlimited printing is a high cost that should be controlled more effectively
- Can't get access to information (screens) that I need to do job – don't know the screen access code (in Datatel mnemonic) and no one will give me the code – I'm only trained to do my job and need some cross training – if a student comes in and I do what I can for that student and if the student needs something else, he/she has to wait for another person – I can't help them then
- Bandwidth to Internet is a limiting factor! At 98% capacity
- In many classes that need visual images (microbiology class) there is limited capabilities of projections
- Need better video projection for e-microscope; currently it is very limited (had better in high school!)
- Needs to be more places to work w/ a computer; need more open labs
- General access to computers is limited

- More satellite cable link into classrooms
- “Interpreters” for deaf could digital; voice recognition for data entry
- Some instructors could benefit from learning how to use technology (in some classes this hinders learning)
- No good technical support for “auto response system” (clicker system); the support is incorrect; tried but not working
- The password reset system is not always working – password resets sucks!
- For corporate training clients, Outlook not taught as broadly as it could be due to difficulty of customized training setup of dummy email accts; a big challenge for IT, but this needs to be much more feasible; could do more training if this were easier to set up.
- Lack of customizable CBT prevents broader training opportunities for corporate clients
- Inconsistency of wireless capabilities

What technology is really working well?

- Photocopy machines works well until it needs toner and then only one person can put in the toner, same with paper
- Office suite of software
- The new phones have caller ID, missed calls can be identified
- Can access email from home
- Students can register online
- Faculty can print in main copy room (large quantities)
- C308 is accessible to faculty and staff – it’s quiet and can work
- Datatel generally works well
- Smart classrooms are great;
- Remote access to Library databases is wonderful thing.
- E-reserves for faculty is working to get material online
- The institutions “online” programs are working very well! Really meeting student needs and demands
- Printing is very successful (maybe too much though)
- Getting access to my office machine from anywhere on campus is good
- Desktop computers are good (replacement cycle working)
- Library access from offsite is really good
- Online registration is good, but need more help
- Instructors can work w/ students thru email
- Online classes and class material online
- WebAdvisor is good, but some missing links w/ the on-campus department (ex: a change address does not always follow thru)
- Ability to access outlook from home; new update is fabulous
- VOIP allows integration of voice mail and email
- Computes are updated to XP is nice
- electronic telephone directory is very good
- Meeting and Training Center (Moses family) has enabled CE to market to outside corps
- Streaming media is working well
- Off campus student, faculty and staff authentication for access to Library materials is working well
- Remote desktop control capability, especially for remote classrooms, etc
- Remote desktop support