

BUFFALO STATE COLLEGE
TECHNOLOGY PLAN
2003-2008

Article I. Executive Summary

Introduction/Charge

Buffalo State College created its first technology plan in 1998. Time, accomplishment of many technology initiatives, and events linked with strategic planning led to a process to prepare a new technology plan. Strategic Initiative 1.6 in the college's recently adopted strategic plan stated the following: "Integrate technology throughout the learning environment and enhance the delivery of academic programs through its efficient and effective use". Action step 1.6.1 states "Develop a comprehensive and viable technology plan that includes attention to classroom technology; student access to computer labs; a faculty and staff computer replacement cycle; and Web-based and distance learning".

Action step 1.6.1 constitutes the charge from the College Planning Council to the Technology Council to create a technology plan. One role of the Technology Council is to establish campus technology priorities and institutionalize the strategic planning process by actions to "develop and implement strategic plans for the short-term and long-term technology needs". The Technology Council started the effort in January 2003 with the expectation of producing a draft technology plan by June 2003.

Members of the Technology Council involved in preparation of the technology plan are:

Charles Agel, Arts and Humanities
Judi Basinski, Computing and Technology Services
Mark Corcoran, Student Representative
Wanda Davis, Undergraduate Education
Tim Ecklund, Residence Life and Auxiliary Services
Warren Gleckel, College Senate
Maryruth Glogowski, E. H. Butler Library and Instructional Technology
Scott Goodman, Natural and Social Sciences
William Kraus, Enrollment Management
Anand Perala, Student Representative
Richard Podemski, Graduate Studies and Research
Dennis Ponton, Academic Affairs (chairperson)
Thomas Wozniak, Applied Science and Education

Dawn Greil, Keyboard Specialist, in Academic Affairs provided support to the Technology Council.

In addition to Action step 1.6.1 specifically addressing a technology plan, the following action steps in the college's strategic plan provided focal points for the process:

Action step 1.2.4: Enhance the teaching and learning environment by upgrading campus instructional equipment, laboratories, studios, and classrooms; expanding library collections; and facilitating opportunities for faculty, staff, and student interaction.

Action step 1.2.5: Complete the next phase of the facilities master plan for academic buildings.

Action step 1.5.2: Increase the availability of courses.

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Action step 1.6.2: Encourage and support faculty use of technologies to enhance instruction; increase faculty awareness of assistance and training; improve information on the Web for faculty using technology in instruction.

Action step 2.1.2: Expand and strengthen initiatives to support grant-writing, research methodology, applications, and opportunities.

Action step 4.2.2: Provide leadership to ensure that persons with disabilities have full access to programs and services of the college including employment, curricular, and extracurricular educational offerings, programs, and activities.

Action step 5.1.1: Implement all phases of the SABRE student information system project.

Action step 5.1.3: Develop a plan to increase and maximize student access to support services (e.g., library, computer labs, and studios).

Action step 5.1.6: Complete the next phase of the modernization plan for student services buildings.

Article II. Planning Context

The Technology Council assessed progress toward technology goals established in the 1998 technology plan. A listing of major accomplishments for the primary categories in the 1998 plan follows:

Information Access

- The college adopted and supported universal access to information resources for students, faculty, and staff. The model assumes computer technology is necessary to learning-teaching success and the required tools will be available in a variety of ways.
- Information management is an expectation of all students and is implemented via an infused across-the-curriculum requirement in the SUNY general education program.
- Computers are available to faculty and staff (approximately 1500 computers) and for student use (approximately 1000 computers) in numerous venues on campus. Campus buildings including residence halls are wired and equipped with high-speed Internet access.

Training

- The creation of CyberQuad in 1997 provided a venue for faculty/staff training. Programs offered by Computing and Technology Services and FAST (Faculty and Staff Technology Development Center) provide a full spectrum of training opportunities. Implementation of degree navigator and on-line registration amplify need for training sessions.
- Internally supported grant programs including TIP, FAST, sessions for Blackboard, and a summer workshop for on-line instruction advanced technology. A UUP/Buffalo State technology grant supported faculty and staff training with external funds.

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Instructional and Research Technology

- 12 technology enhanced classrooms have been created and 6 more will be installed by fall 2003. In addition the upgrading of all lecture halls in Bulger Communication Center is funded and nearly complete. The campus will have 25 Smart classrooms.
- Approximately 90 venues (classroom, laboratory, studio) used by students have one or more computers dedicated to instruction. Over 45 sites designated as "computer" laboratories (five or more computers) are included in a four-year replacement cycle supported by the student Technology Fee. Workrooms (defined as less than five computers) are found within many academic departments and student support offices on campus. These facilities serve both general purpose and department specific technology needs.
- SUNY initiatives such as SUNY Connect are fully supported by the college.
- E. H. Butler Library houses over 150 computers to serve students. Expanded hours serve the diverse student population. Proxy servers allow 24/7 access to electronic resources.
- Students, faculty, and staff have full access to Web resources. The college's Web presence is managed by College Relations and by Computing and Technology Services. A Web advisory group exists as a subcommittee of the Technology Council.
- TLTR's (Teaching/Learning/Technology Roundtables) are organized in each of the Faculties of the College. Units are designed to provide opportunity for discussion and recommendation regarding technology and instruction.

Distance Education

- Vehicles for distance education supported by the college include online courses using course management software, SUNY Learning Network (SLN), interactive video using ISDN (Integrated Services Digital Network), and the Western New York Fiber Network (CityNet).
- A position, distance education coordinator, was created and filled in 2000.

Administrative Services

- Services for students are strengthened via actions such as providing passwords, e-mail availability, electronic bulletin boards, and with initiatives for Blackboard, Degree Navigator, and SABRE.
- Four staff positions were created to serve distributed technology.

Resources

- Resources to support technology include the student technology fee (approximate revenue of \$2.25 million dollars in academic year 2002-2003) and Student Computing Access Program (SCAP) with an annual FTE-based allocation of about \$185,000 per year.

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- Technology fee expenditures from 1995 through July 2002 total \$5,740,590.

Organization

- Technology committee structure on campus includes TLTR's, Administrative Information Technology Advisory Committee (AITAC), Academic Technology Advisory Committee (ATAC), and Technology Council.

Expenditures for technology have increased dramatically in the past five years. A comparison of expenditures for fiscal year 2001-2002 (\$7,214,700) with fiscal year 1998-1999 (\$4,974,500) indicates an increased spending for technology of \$2,240,200. Accounts considered were SCAP, Academic Equipment Replacement, Computing and Technology Services, Web Administration, Instructional Resources, Technology Fee, E. H. Butler Library (portion of expenditures), and estimates from other accounts. Examples of annual (FY 2001-2002) expenditures for technology are:

SCAP (Student Computing Access Program)	\$187,100
Academic Equipment Replacement	\$218,700
Computing and Technology Services	\$3,134,900
Web Administration	\$137,500
Instructional Resources	\$680,500
Faculty/Staff Technology Development	\$41,400
Technology Fee	\$1,414,600

The Driving Forces Task Force prepared a 2002 detailed report of internal and external driving forces for use in developing the Buffalo State College Strategic Plan. Technology was viewed as a separate external driving force and was a major component of the Infrastructure internal driving force category. The task force report identified significant accomplishments of the past five years.

Comments in the final report regarding technology as an external driving force included the following:

- Campus computing and laboratory equipment has not kept up with technology advances in the external community.
- The College is at a crossroads in the area of distance learning and must determine direction and goals.
- Computer usage in the region is below the national average.
- Employers rank computer skills as a high priority for college graduates.
- Technology and computer skills are diffused throughout the college curriculum and it is difficult to determine their overall effectiveness.
- Buffalo State should construct a plan for integration of technology into instruction and related activities that follow stages common in most implementation models including adoption, enhancement, and transformation in models.

The consideration of technology as an internal driving force led to the following conclusions:

- Revisit campus technology structure to make sure all constituents are involved.
- Focus on being state of the art in most initiatives with limited pursuit of cutting edge status.
- Raise technology standards for graduating students.
- Appoint faculty and recruit students who expect and will use high levels of technology.

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- Address issues relating to the role of distance education at the college.
- Resources are critical to support scientific and technology equipment not allowable under SCAP and Technology Fee guidelines.
- A computer replacement cycle is needed for faculty and staff computers.
- Computer literacy competencies for students need better definition and assessment.

Article III. Input from Stakeholders and Methodology

Technology Council members reviewed progress made toward goals in the 1998-2003 campus technology plan. A list of focal points for consideration in the next plan was created from the strategic plan action steps (see list, page 1 and 2 of this document) and by identification of additional points of interest. The latter included the following:

- Vision for technology.
- Issues related to software, software support, bandwidth, and related items.
- What are the levels of technology for various classrooms.
- How can acceptance and use of e-mail be encouraged.
- Improve communication related to campus technology efforts.
- Use technology to strengthen connections with the external community.
- Use technology to expand communication of scholarly accomplishments.
- Identify sources of funding to support technology.
- Determine extent to which technology initiatives will keep up or set the pace.
- Communication with students regarding value of technology fee to campus.

Members of the Technology Council convened meetings of various campus stakeholders groups to obtain recommendations and input into the new technology plan. Following these, written reports were prepared to summarize input from the following stakeholders:

Academic Technology Advisory Committee (M. Glogowski)
Administrative Information Technology Advisory Committee (J. Basinski)
Web Group (S. Goodman)
Teaching, Learning, Technology Roundtables (joint meeting)
Distance Education (R. Podemski)
E. H. Butler Library (M. Glogowski)
Instructional Resources (M. Glogowski)
Students (M. Corcoran)
Computing and Technology Services (J. Basinski)
Student Affairs (T. Ecklund)
Enrollment Management (W. Kraus)

Oral reports and recommendations were provided to reflect suggestions from the College Senate (W. Gleckel) and Academic Affairs Council (D. Ponton).

Findings from the above were used to draft the technology plan.

TECHNOLOGY VISION

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Buffalo State is committed to an effective implementation, use, and management of technology to support the core vision and mission of the institution.

TECHNOLOGY GOALS

Technology Goal 1:

Buffalo State College will develop a process for continuous review and alignment of technology goals in accordance with the campus strategic plan.

Buffalo State can take pride in the many technology related accomplishments in the last five years. The nature of information and communication technologies, however, is such that exponential and rapid evolution will continue giving further options to transform the college. A technology plan is a guide for that transformation but managing the transformation requires a more strategic approach.

Recommendation	Responsible	Date	Cost
1.1 Technology Plan should be dynamic. It should be revisited and updated every two years. A report to campus will occur by March 1 in alternate years.	Technology Council	Implement March 2004	Personnel time
1.2 Technology goals will be in agreement with the strategic plan.	Technology Council, College Planning Council	Reviewed annually	Personnel time
1.3 Modifications to the plan forced by external demands (e.g., sudden budget cuts) must be approved by Technology Council.	Technology Council	As needed	Personnel time

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Technology Goal 2:

Assessment protocols will be built in to all new and continuing technology goals.

The expansion of technology and technology services has often taken place in the absence of systematic evaluation and assessment. Substantial resources have been invested to support access and infrastructure, many requiring an ongoing resource commitment. The college has a regular replacement of computing equipment in small department workrooms, medium-size department labs and large centralized labs. An evaluation of the number of students served and the effectiveness of the operation is needed. A second example relates to technology enhanced classrooms and the need to determine if more should be constructed and with what level of equipment and software. Systematic evaluation and needs assessment, tied to learning outcomes if possible, should inform all technology decisions.

Recommendation	Responsible	Date	Cost
2.1 Technology Council will implement assessment of student computing laboratories, technology enhanced classrooms, and related initiatives.	Technology Council	Complete initial assessment by June 2004, then Annually	Personnel time
2.2 An annual financial report and technology profile will be prepared to document technology expenditures and accomplishments. The report will be electronically distributed to the campus.	Technology Council	By September 1 of each year	Personnel time
2.3 Assessment criteria will be identified for each technology goal. Progress will be documented in the annual technology profile report.	Technology Council	By September 1 of each year	Personnel time

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Technology Goal 3:

An infrastructure will be created and maintained to support campus technology.

The infrastructure for campus technology and technological services has expanded and includes the campus network, "technology specific" facilities, provision of hardware and software, course management systems, teleconferencing and distance learning rooms and related components. Infrastructure creation and maintenance requires the greatest portion of campus technology resources. ADA compliance and security issues will be addressed. The following recommendations have been categorized into Equipment, Network, or Software.

Recommendation	Responsible	Date	Cost
3.1 Equipment: Continue the student laboratory replacement cycle.	CTS	Four-year cycle	\$400,000/year
3.2 Equipment: Implement a faculty/staff computer replacement cycle, include opportunities for laptop as well as desktop hardware when advantage is apparent.	CTS, Academic Affairs	Four-year cycle	\$300,000/year
3.3 Equipment: Implement a Smart Classroom and Smart Cart replacement cycle.	ATAC, IT, CTS	Create a five to seven year replacement and upgrade cycle	\$100,000/year
3.4 Equipment: Determine need for new technology initiatives such as: multimedia/digital imaging labs, data projectors for all classrooms of 30+ seats.	CTS, ATAC, Technology Council	Review and decision by September 2005	To be determined
3.5 Equipment: Create a plan for acquisition and replacement of high-end scientific and technological equipment.	ATAC, Academic Affairs	Create a five to seven year replacement and upgrade cycle	\$250,000/year
3.6 Equipment: Review 2000 plan and revise the plan for digital conversion of television broadcasting facilities for communications department .	A&H, IR, CTS	By May 2005	To be determined (conversion is >\$100,000)
3.7 Equipment: Review 2000 plan and revise the plan for digital conversion of Instructional Resources TV production and distribution service.	A&H,IR,CTS, Academic Affairs	By May 2005	
3.8 Network: A plan for network viability relating to bandwidth and infrastructure will be completed Including: <ul style="list-style-type: none"> • Sufficient network ports in all classrooms, labs, library, residence hall, cafeterias, and selected indoor common areas 	CTS	By January 2005	Plan – personnel time Execution of plan - \$200,000

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<ul style="list-style-type: none"> • Sufficient bandwidth to deliver course materials • Expand and improve Res Net capabilities. 			
<p>3.9 Network: Complete demonstration projects to determine the practicality of expanding wireless technology on campus.</p> <ul style="list-style-type: none"> • Explore laptop loan in conjunction with one of the projects, possibly in the library. 	Technology Council	Complete 2 projects by March 2005	To be determined
3.10 Software: Assess viability of Web-based serving of software (for example, using Citrix)	CTS, Technology Council	By May 2004	To be determined
3.11 Software: Implement a Smart Classroom and Smart Cart software upgrade and replacement cycle.	ATAC, CTS, IT	Create a three to five year plan	To be determined
3.12 Software: Review campus-wide agreements and software upgrades for labs and integrate with Tech Fee expenditure process.	Technology Council, CTS, ATAC		Personnel time

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Technology Goal 4:

Use technology to enhance campus communication.

Efforts to provide campus wide access to the network and electronic mail are many. The college should build on these accomplishments with a new focus to promote electronic communication. Advancement of e-mail use by students will support the move to paperless communication.

Recommendation	Responsible	Date	Cost
4.1 Increased use of e-mail by faculty, staff and students will be promoted as the official campus communication tool.	VPC	Ongoing	Personnel time
4.2 Investigate implication of the cost shifts created by file sharing and increased use of technology. Consider an OTPS adjustment.	VPC		
4.3 Pursue implementation of online transmission of files to Copy Center for printing.	Finance & Management, CTS	July 2004	To be determined
4.4 Internal college documents and forms will be placed on the Internet.	To be determined	Ongoing	\$20,000 +
4.5 Mailbox size will be increased to support needs of faculty/staff/students.	CTS	Ongoing	To be determined
4.6 Promote increased use of file sharing.	VPC, CTS	Ongoing	Personnel time
4.7 Strengthen communication to promote technology services to students (i.e.: purchase options for PC's, software, labs, Blackboard, TV & broadcasting, digital basics), communicate information to all incoming students.	Enrollment Management, Technology Council, Student Affairs	Implement for incoming students, fall 2004	To be determined
4.8 Improve information access for any communication to all members of the campus community. Provide yellow pages (clear menu) for college Web pages.	College Relations	Ongoing	To be determined

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Technology Goal 5:

Buffalo State will focus its commitment to electronic learning.

Distance Education was first advanced at Buffalo State with construction of classrooms to deliver degree and certificate programs via four-way interactive video. Web-based learning experiences have increased more recently. Convergence of technologies allowing voice and video over IP has made online instruction is more desirable.

Recommendation	Responsible	Date	Cost
5.1 A vision for electronic learning will be adopted. Electronic learning will be used to help the college fulfill its core mission and to: <ul style="list-style-type: none"> • Ease classroom availability on campus • Support students through an increase in course availability • Increase enrollments by attracting new student markets. 	VPC	January 2004	Personnel time
5.2 The electronic learning office will provide faculty support for these initiatives in collaboration with the FAST center. A handbook will be available for students engaged in electronic learning.	FAST, Electronic Learning Office	March 2004	\$50,000 for instructional design and related services
5.3 Electronic learning will focus on development of online Web-based courses. Support will be provided to develop 10 Web-based courses per year and to assist with expansion and scheduling of hybrid courses that use course management software for a major portion of the course. Provide 1:1 support for course building.	TLTR's, Electronic Learning Office	Develop ten courses for academic year 2004 - 2005	\$25,000
5.4 Participation in the SUNY Learning Network will be encouraged, especially for programs that have low enrollment. (Adequate support through a SLN Student Help Desk is provided by SLN.)	TLTR's, Technology Council	Decision and plan by January 2004	Address payment of fee (\$8.00 per credit hour per student)

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Technology Goal 6:

A full array of technology support services will be available to faculty, staff and students.

Services will be sufficient to respond to the evolving use of technology and provision of technology systems. Support will be timely and responsive and sensitive to the needs of persons with disabilities.

Recommendation	Responsible	Date	Cost
6.1 Electronic library materials (including texts, images and digital objects) must be available. Library holdings of electronic databases and full-text articles will be expanded; electronic access to material on reserve in the library will be implemented and improved.	Library	Annual	\$80,000/yr
6.2 Proceed with project to declare E. H. Butler Library the campus intellectual and student learning center: complete the new late night study space consolidating computers, printing, and necessary functions.	Library, CTS, Facilities	By May 2004	\$250,000 (Capital and computer replacement cycle)
6.3 Student support will be provided through an information commons model. Support will be available at least 16 hours per day, will provide a central referral type of response, and will be staffed by trained individuals.	Library, CTS	Implement January 2004	\$100,000/yr
6.4 Provide a universal login for all to access Degree Navigator, SABRE, BSCLOGON software, e-mail, Blackboard, Res net other with the same username and password.	CTS	By January 2005	To be determined
6.5 Continue to use Technology Fee collections to reduce and manage cost for student printing.	CTS, Library	Ongoing	\$50,000 +
6.6 Improve technology support and training for all; increase specialized training for support personnel and high-end users; focus faculty on how to better employ technology to enhance learning; support application and hardware training for faculty, students and staff.	Technology Council, CTS	Create annual training plan for academic year 2004-2005	To be determined
6.7 Commit to post-implementation plan for SABRE and Degree Navigator.	Enrollment Management	July 2004	\$85,000 SABRE Maintenance +staff to be determined
6.8 Increase support for MAC users.	CTS, Technology Council	By January 2004	\$2000/year for staff training

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Technology Goal 7:

The Web will be a vehicle to provide comparative advantage to Buffalo State College.

The Web offers first point of contact with the college for many individuals. Presentation will be inviting, informative, current, and professional.

Recommendation	Responsible	Date	Cost
7.1 Adopt means to keep departmental and office Web pages current using database technologies; develop and design templates for Web pages	College Relations, Technology Council	By January 2004	Software already purchased Personnel time

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Technology Goal 8:

Technology governance structure will be reviewed and modified as needed.

An inclusive campus organization will support and monitor technology initiatives. Roles of advisory groups and the Technology Council will change as needed to provide leadership for campus technology.

Recommendation	Responsible	Date	Cost
8.1 Formalize roles of TLTR's. Engage TLTR's in assessment of technology needs, expansion of technology to improve instruction, and create a more active role for TLTR's in the technology recommending and decision-making process. Hold one annual joint meeting of TLTR's. TLTR's will provide vision for new degrees with high technology focus.	Technology Council, Deans	Ongoing	Personnel time
8.2 Coordinate operational goals of primary technology units (CTS, Instructional Technology, E.H. Butler Library) on campus	CTS, Library, IT	Annual	Personnel time
8.3 Revise process for requesting Tech Fee & SCAP funding. Regularize submission and decision dates, streamline process.	Tech Council, CTS, Academic Affairs	By spring 2004	Personnel time