Gilbertsville – Mount Upton Central School

K-12 Technology Plan & Curriculum Framework

2007-2010

Prepared by the GMU Administration and
Technology Department:
Douglas A. Exley, Superintendent
Michael Miller, Director of Student Support Services
Karen Volpi, Elementary Principal
Tonda Dunbar, Secondary Principal
Eric D. Voorhees, Director of Technology

Gilbertsville-Mt. Upton Central School
693 State Highway 51
Gilbertsville, NY 13776

January 26, 2007

Table of Contents

Technology Plan Vision

"Two conditions that arose in the last quarter of the 20th century have changed the terms for our young people's entry into the world of work: the globalization of commerce and industry and the explosive growth of technology on the job."

- The Secretary's Commission on Achieving Necessary Skills,
  U.S. Dept. of Labor, 1991

Trends

Rapidly changing computer and communication technologies have changed the way people work in business, industry, the military, and higher education. This change will continue to occur at an increased pace. It is estimated that today's high school graduate will change careers seven times in his/her working life. Nearly all information is now created, managed, transmitted, and stored in electronic form. This is reflected in the federal government's priority in expanding the Internet to create an information highway that will reach into every classroom across the country.

Technology in Education

Research continues to show that students learn faster and more deeply when aided by appropriate classroom technology. This is due to the highly interactive and visual nature of educational software that responds and adapts to the individual needs of each student through multiple learning channels.

Students are more motivated to learn with technology, and fewer drop out of school. Computer and communications technologies bring to teachers the kinds of productivity increases that have already occurred in other professions, enabling them to teach more effectively and to spend less time on administrative tasks. With new data reporting tools, administrators are able to make more informed decisions that can further increase the potential for student learning and teacher productivity.

Using the tools of technology, students and teachers can research, organize, integrate, and present the content that is the core of a school's curriculum. These tools also allow administrators to better guide and support this process.

The Plan's Vision

The Gilbertsville-Mt. Upton Central School District has a longstanding and strong commitment to technology in education. Certainly a testament to this statement is the advanced technologies that were incorporated into the building that opened in the 1994 – 1995 school year and the ongoing support for district technology enhancement.

This plan supports more effective methods of teaching and learning using contemporary tools in all areas of the curriculum. It will help empower teachers in every classroom to meet the individual learning needs of each student in our diverse student body, and it will prepare them for a lifetime of learning and employment in the 21st century.

Technology Plan Vision (Continued)

The Technology Planning initiative was set in motion in 1996 by Superintendent of Schools Douglas Exley.

This technology plan supports the district's Mission Statement:

> The Gilbertsville-Mt. Upton Central School District is committed to an educational environment that assures equitable opportunity for all individuals to become responsible, productive members of society. We will encourage individual excellence by students of all ages that they may gain a lifelong enthusiasm for work and learning.

This technology plan is based on these belief statements:

> We believe that the purpose of technology at Gilbertsville-Mt. Upton Central School is to improve instruction, learning and the educational environment.
>
> We believe this can be accomplished by:
>
> - setting common goals for the use and application of technology
> - developing student and faculty competency levels
> - setting processes and procedures for the acquisition, upgrade, utilization, and evaluation of software and hardware
> - supporting these practices in a positive learning environment for staff and students
> - having a system in place to support, nurture and constantly monitor and adjust practices for best effect
>
> As with our other plans for instruction, we see that there are characteristics that show positive applications of technology:
>
> - incorporates and supports the common goals of the technology plan, staff development plan and the curriculum initiatives
> - is research based and incorporates best practice ideas
> - must be appropriately integrated into authentic learning opportunities
> - focuses on improving academic achievement

This technology plan focuses on technology enhancements, professional development, and a clearly articulated K-12 technology curriculum.

Current Technologies In Use At GMU

The following is a summary of the technologies in use at GMU:

- All classrooms have at least one computer connected to the building-wide network. All classrooms have had access to the Internet since the summer of 2000.

- In the summer of 2005, the high school computer lab was disbanded and the computers moved to the high school library to better integrate online and traditional library resources.

- The Dynacom Integrated Information System continues to provide multimedia programming to the classrooms via fiber optic cable.

- GMU has an in-house announcement channel for students and staff. A monitor for this channel was added in the cafeteria in early 2007 in order to further allow students and staff to have up to date information about school news and events.

- In the fall of 2006, staff members were provided with GMU-based e-mail accounts for professional communications with students, parents, and colleagues.

- The district utilizes online software applications for administrative purposes, such as payroll, personnel management, and budget planning.

.

- In the summer of 2004, GMU committed to a new web-based student information system. This software allows for student management at an efficiency level much higher than the previous system.

- Class projects continue to take advantage of the computer lab capabilities in the areas of Internet-based research and multimedia presentations. Mobile computer lab carts were introduced in the fall of 2004 to further extend this capability.

- Business classes utilize word processing, database, spreadsheet, and computerized inventory software.

- All students are able to research up to date career information through career planning software in the Guidance Office, the high school library, and the mobile computer labs.

- Courses in computer aided design (CAD), image editing, desktop publishing, and web-design software are offered to help prepare students for modern work and higher education.

- GMU staff members have been granted monies from agencies to investigate the role that various technologies can play in education.

- District administrative tasks have been improved with the addition of new, faster servers and a school intranet.

Current Technologies In Use At GMU (Continued)

- GMU is now part of a high speed regional network that allows for internet access of unprecedented speed and new opportunities for online learning.

- Whenever possible, GMU capitalizes on the talents and knowledge of staff to train other staff members on various technology related topics.

- GMU works to provide an environment of cross-platform computing, wherein information may be accessed from any computer regardless of manufacturer

- Improvements in the building-wide network continue to be made, increasing reliability and further enabling computer based instruction and communication for the faculty and staff at GMU.

Acceptable Use and Internet Safety

Policy regarding the acceptable use of computer based and online resources are covered under Gilbertsville - Mount Upton Central School's Board of Education policies 6490 and 8271.

In summary, these policies state that computer based and online resources are to be used in a professional manner for school related activities and operations only. Usage that contradicts GMU policy or is illegal is prohibited.

Enforcement of acceptable use is ensured in the following ways:

- A content filtering appliance is in place in accordance to the Children's Internet Protection Act (CIPA) to monitor overall internet access and to block access to sites of a questionable or illegal nature.

- Student use of computers or the internet is supervised by GMU staff members to ensure that they are used in a manner commensurate with the educational environment.

- Staff e-mail is archived and can be accessed to ensure legal and ethical use.

District Technology Goals at GMU

1) To maintain a level of technology that is up to date and accessible to all students and staff.

2) To elevate and maintain student and staff computer literacy so that they are able to access and use technology in a proficient manner as it relates to tasks at work and home.

3) To increase the level and sophistication of staff development in the use of various technologies.

4) To support the community by offering technology education to community members.

5) To integrate the use of computers and other modern technologies with classroom instruction to achieve the best possible education for the GMU student in the 21st century.

District Technology Assessments

1) The assessment of the "up to date" status of technology equipment and services at GMU will be made by comparing system capabilities / requirements of newly available equipment and software to equipment currently in the GMU inventory. Equipment and / or software replacement will take place on such a basis that the majority (over 75%) of computer equipment be no more than 4 years old, with the remainder of computer equipment to be no more than 7 years old. Guidelines for assessing other equipment and / or services (telecommunications, library services, etc.) will be determined on a cooperative basis between the technology, maintenance, library and other involved departments.

2) The level of student computer literacy will be assessed through the methods discussed in the Computer Literacy Foundations on pages 9 through 20.

3) Staff development in the use of technology will consist of regularly scheduled training workshops facilitated by the GMU technology department, details of which are listed in the Professional Development section of this plan. Computer literacy of staff members will be assessed by tracking staff use of technology equipment, and by tracking the level and types of technology maintenance / repair requests.

4) Evaluation of the impact of professional development in the use of technology and its use as an instructional tool will be made based upon staff reporting of experiences with technology use in the classroom, as well as specific classroom observations.

5) Progress of the plan's implementation and the impact of technology on student learning will be reviewed by the GMU administrative council on an ongoing basis.

6) Amendments to the technology plan will be made on an as needed basis (not to exceed three years) and will be filed with the New York State Department of Education and BOCES. These amendments will consist of additions, deletions and revisions determined necessary by the GMU administration and the technology committee to better meet the goals outlined in this plan as changes in the state or nature of technology occurs.

Involvement and Communication

Communication of this technology plan and promoting involvement in the plan's implementation and future development will be accomplished using the following methods:

- Staff discussions and professional development
- Open houses
- Community workshops
- Regular information updates via the school newsletter and website

Professional Development

This section of the GMU technology plan is intended to provide a comprehensive framework for staff development in computer technology so that it may be better integrated into the instructional environment.

Technology / Training Opportunities

A catalog of computer equipment and services will be provided on a yearly basis to assist staff in planning for the use of technology in the classroom. This may include, but is not limited to:

- Computer labs
- Presentation equipment (projectors, visual presenters)
- Wireless computing resources
- Central audio / video scheduling (Dynacom) services
- Library-based technology resources
- In-house training services
- BOCES provided workshops and training services
- Other workshops and / or training opportunities appropriate to the integration of computer technology in the instructional environment

In-house training will be provided to staff in the following areas:

- Use of the equipment mentioned in the section above
- Software germane to staff administrative tasks, such as grading and budget
- Office software (e.g. word processing, spreadsheets) in current use
- Other equipment or software used to further student learning

Identification of knowledge, skills, and attitudes needed by teachers will be accomplished by specific classroom observations. For administrators, identification will be made on an ongoing basis by review in administrative council meetings.

All staff that work in an instructional capacity will be included for participation in in-house training sessions and staff development. Staff members wishing to attend BOCES workshops may do so upon review for applicability and approval by the appropriate administrator.

Access for All Learners

Gilbertsville - Mount Upton Central School is committed to maintaining reliable and efficient access to computer based resources for all students and staff. In support of this, GMU operates its technology infrastructure under the following conditions:

Minimum Infrastructure and Equipment

- At least one computer per classroom with network capability
- At least one active wired network connection per instructional area or office
- Wireless network coverage capable of servicing 90 percent or greater area of the school building, including 100 percent of core instructional areas
- Printer access for all instructional and office staff, with supervised access for all students
- At least one mobile lab cart per school with a minimum of 18 laptop computers for student use
- Network servers capable of handling file service, e-mail, and website traffic at highest usage times with minimal lag or interruption of service
- Network switch capacity to accommodate all active wired connections plus a reserve capacity of at least 10 ports
- Internet filtering appliance that conforms with the Children's Internet Protection Act (CIPA)

Local and Wide Area network configuration

- Network router configuration includes active firewall protection to prevent virus infiltration and hacking at the network level
- Servers and workstations have active firewalls and anti-virus software to further prevent malicious activity
- Servers and workstations containing sensitive information are password protected to prevent unauthorized access. This includes, but is not limited to all file servers and administrative office workstations
- Wherever possible, network traffic takes place at 100 Mbps to limit delays in accessing network resources – this level is currently over 95 percent and should never fall below 90 percent of the total number of workstations.

Access for All Learners (Continued)

Access to Software and Digital Content

Access to content via the internet shall be as open as possible unless it conflicts with the CIPA and/or the Gilbertsville - Mount Upton Central School Acceptable Use policies. Internet or e-mail use other than for educational purposes or the operations of Gilbertsville - Mount Upton Central School are prohibited.

All staff shall have access to the software necessary to perform their job duties. Software requested for the education of students will be reviewed by the appropriate administrator for applicability and by the Technology Director for system compatibility prior to purchase.

Ensuring Accessibility

The district's Technology Director is responsible for ensuring that all computer equipment is in good working condition and that access to internal network and online resources are available to the fullest extent possible.

For shared equipment, such as mobile lab carts, the Technology Director will be responsible for scheduling use as fairly as possible based upon staff requests for the equipment.

Use of Assistive Technologies

"Assistive Technology (AT) includes both devices and services. A device is any item or piece of equipment used to maintain or improve the functional capabilities of a person with a disability."

"AT services support people with disabilities or their caregivers to help them select, acquire, or use AT devices."
-Washington Assistive Technology Alliance (wata.org/what-is-at.htm)

The role of Assistive Technology is to provide equality of access to curriculum features for students with a demonstrated difficulty in an area of academic processing. Technology is available to students in the district to help them accomplish tasks set forth in the Computer Literacy Foundations as well as General Education curricula.

Skills Taught	**Assistive Technologies**
Keyboarding	Large font or high contrast key labels AlphaSmart keyboard OnScreen keyboard Voice recognition
Pointing Devices	Trackball Switch adapted Mouse / Trackball Joystick Touch screen
Word Processing, Spreadsheets, Databases, E-mail	Text to speech Word prediction Voice recognition Spelling and grammar checking
Curriculum Integration	
Language Arts	Alternate keyboard and pointing devices Text to speech Organization techniques and software Bookmaking software Presentation software Computer and audio books
Math, Science, Social Studies	Spreadsheet and database software Skill-based drill software On screen calculator Video microscope Topic-based research and fact software Problem solving software

K-12 Computer Curriculum Framework (Foundations)

The following curriculum framework begins with some suggested outcomes, then continues with a listing of skills to be taught. Some suggested instructional and assessment strategies follow. Some recommended learning resources are also listed.

This framework was adapted from guidelines originally proposed on the web site of the government of British Columbia's Educational Services Curriculum Branch: (http://www.est.gov.bc.ca/curriculum)

The framework by grade is divided into 3 main sections. This is due to the different computer instruction environments prevalent in elementary, middle school, and high school.

The breakdown of these environments is as follows:

K-6: Instruction is performed in the Elementary Computer Lab as an elementary "special". Instruction takes place primarily as "pure" computer instruction (not directly related to regular classroom instruction), with reinforcement to classroom learning taking a strong secondary role.

7/8: Instruction takes place in the context of a specific course. Computer-specific instruction is also integrated as part of core subjects.

9-12: Computer instruction currently takes place as part of electives and in the course of projects performed in core courses. Descriptions of computer related courses may be found on page 20.

Integration Strategies

In order to insure that technology will be integrated into curriculum and instruction, the following strategies will be used:

- Curriculum mapping will be used to determine areas where technology has had an impact, as well as areas where it can be implemented to further improve instruction.
- Superintendent’s conference days contain technology components, where new uses of computer resources can be introduced and experiences with technology in the classroom can be shared.
- After-school sessions at GMU and BOCES workshops provide further training in the use of technology as part of instruction.

Curriculum Framework, Section 1: Elementary

Computer Literacy Foundations - Grades K - 2

Prescribed Learning Outcomes

It is expected that students will:

- Identify and describe the effects of technology tools that communicate information in the home and school.
- Demonstrate a willingness to use technology tools.
- Enter information on a computer and print it.
- Demonstrate a willingness to work cooperatively when using technology tools.
- Use appropriate terminology to describe the parts of a computer system.
- Demonstrate the proper care and safe use of equipment
- Identify occupations in the community that involve the use of information technology.

Skills Taught	**Nature of Instruction**
Keyboarding	Kindergarten: letter recognition 1st Grade: Keyboard layout and functions 2nd Grade: basic typing
Pointing Devices	Basic operations (click, double-click, drag and drop) are taught then reinforced.
Word Processing	1st and 2nd Grade: Basic writing skills are taught in the classroom and reinforced in the lab.
E-mail	1st and 2nd Grade: Password use and login process are taught and practiced; simulated e-mails are typed and sent, received and replied to.
Internet Use	1st and 2nd Grade: Basic browser skills; access to child-specific web sites; simulated web addresses are typed.

Suggested Instructional Strategies

Children are surrounded by technology tools at home and at school. They need to know how to use these technologies so that they can communicate more effectively with others.

- Have students work individually to identify and match picture vocabulary cards with the parts of a computer (e.g., mouse, keyboard, monitor, printer). Discuss the proper care & safe use of this equipment with students.
- To help students develop their understanding of how information technology is used in the workplace, ask them to create collages showing people using a variety of technology tools (e.g., computers, telephones, fax machines, video cameras)

Suggested Assessment Strategies

In the early primary years, young children begin to explore technology formally and to acquire fundamental skills for handling technology tools. Playing games and using simple graphics and text programs with partners provide children with the opportunity to gain confidence using technology tools. By observing students as they work and listening to their conversations, teachers can assess knowledge, understanding, and care of technology tools, as well as ability to work cooperatively with others.

- Listen to students' conversations as they work with technology tools. Note the extent to which they use terms correctly (e.g., *click, select, space bar, enter, return, escape, cancel, icon, print*)

- Observe students as they use software. Note the extent to which they are able to:
  - Use a mouse to point, select, and drag.
  - Access menus and a tool or button bar or palette.
  - Print documents.

- While students are working with a computer, assess their knowledge of the basic components of a computer system. Note the extent to which they are able to:
  - Accurately identify the parts.
  - Explain the general purpose or function of each part.
  - Use correct terminology.

- Conference with students to discuss their collages showing people using technology tools. To assess their knowledge, ask questions such as:
  - What can you tell me about the technology tools you have included in your collage?
  - What is the purpose of each tool?
  - Can you think of some tools that you have not included?
  - Which technology tools have you used before? How were they useful to you?

Recommended Resources for Students

Print Material
Computers: A Visual Encyclopedia

Software
Kindergarten: MECC Playroom
Kindergarten to Second: Reader Rabbit Series
1st an 2nd Grade: Type to Learn Jr., Read, Write & Type, Microsoft Word, Microsoft Internet Explorer

Recommended Resources for Teachers

Print Material
Computer Basics by Teacher Created Materials

Computer Literacy Foundations - Grades 3 - 4

Prescribed Learning Outcomes

It is expected that students will:

- Enter, save, and retrieve information using a computer or other information technology tools.
- Use word processing and graphics software to present ideas.
- Demonstrate an understanding of data storage practices.
- Describe how disks and other storage media are used.
- Use appropriate terminology when using technology tools.
- Demonstrate a willingness to work cooperatively when using technology tools.
- Identify technology tools used in the home, school, and community.
- Demonstrate the proper care and safe use of equipment

Skills Taught	**Level of Instruction**
Keyboarding	Introduction of typing tutorial software; home row skills are introduced.
Pointing Devices	Additional selecting and editing skills are taught in conjunction with word processing.
Word Processing	Writing skills taught in the classroom are reinforced in the lab.
E-mail	Concepts taught in K - 2 are reinforced and practiced.
Internet Use	Basic browser skills taught in K - 2 are reinforced and practiced; Search engine skills are introduced and gradually increased as students develop language skills.
Graphic Presentations	Introduced to basic graphics / presentation software; presentation “slides” are constructed.

Suggested Instructional Strategies

At this level, students become more proficient and self-reliant in their use of information technology. They are introduced to the concepts of safety and security in the use of technology tools. They become aware of the importance of developing the skills required to use these tools in their daily lives.

- Discuss with students the safe and unsafe uses of technology tools. Use role-playing to reinforce these concepts

- Have students launch a word processing program, write a story, save it to a disk, and print it. Encourage students to write letters using the computer, and send them to classmates and pen pals.

Suggested Instructional Strategies (continued)

- As part of a project, demonstrate how to retrieve information from an online or CD-ROM based encyclopedia and then invite students to try it. A demonstration of how to retrieve information using an Internet search engine or library database system can also be demonstrated by the instructor, then performed and practiced by students.

Suggested Assessment Strategies

Students improve their basic skills as they create electronic documents such as stories, pictures, and reports. The teacher can assess student's abilities to organize, store, and retrieve information by observing them as they create and manipulate text, graphics, and other data. Observation as to how students save their work to disks or a computer's hard drive is also useful.

- As students use various software, note the ease and confidence with which they are able to:
  - Launch (open) applications.
  - Close (exit) applications.
  - Access tool bars, menus, and help documents.
  - Use the features of the program (e.g., align and format text, move the cursor within the document, insert, drag and delete text).
  - Print documents.

- Listen to students' conversations as they work. Note the extent to which they use accurate terminology

- Observe students as they work and listen to their conversations. Note the extent to which they:
  - Take turns communicating
  - Share materials
  - Share their own ideas and use the ideas of others

Recommended Learning Resources for Students

Print Material
Computers: A Visual Encyclopedia

Software
Mavis Beacon Teaches Typing
Microsoft Word
Microsoft Internet Explorer
Kid Pix
Reader Rabbit Reading & Math
ClueFinders series

Recommended Resources for Teachers

Print Material
Computer Basics by Teacher Created Materials

Computer Literacy Foundations - Grades 5 - 6

Prescribed Learning Outcomes

Upon exit from the 6th Grade, it is expected that students will:

- Work cooperatively using information technology tools.
- Access information using a variety of on-line information tools
- Identify and apply a variety of software based on specific needs.
- Apply troubleshooting strategies when using technology tools.
- Demonstrate an understanding of software compatibility when using technology tools.
- Practice the socially responsible use of electronic information.
- Demonstrate an awareness of the impact of information technology on society.

Throughout 5th and 6th grade, it is expected that students will:

- Manipulate electronic documents using a variety of tools.
- Demonstrate an understanding of the need for the security and privacy of electronic information.
- Use appropriate terminology when using technology tools.
- Demonstrate a concern for the need to take care of technology resources and materials.
- Demonstrate an awareness of health and safety issues when using information technology.
- Demonstrate a willingness to be self-reliant when using information technology tools.
- Identify role models in the community who use technology tools, being careful to consider all individuals, regardless of gender, culture, and ability.

Skills Taught	**Level of Instruction**
Keyboarding	Skill continues to be practiced and refined using typing tutorial software; keyboard “skins” are introduced to promote touch-typing.
Pointing Devices	Skill is now inherent with computer use.
Word Processing	Writing skills taught in the classroom are reinforced; research projects utilizing multiple computer skills are introduced.
Spreadsheet	Data entry and math functions are introduced.
E-mail	Concepts previously taught are practiced and refined.
Internet Use	Browser skills are practiced and increased; research assignments are introduced. Use of library databases is introduced and practiced
Troubleshooting	Use of help documentation and logic to solve more complex software & hardware problems.

Suggested Instructional Strategies

Students need to become aware of ethical issues related to the use of information technology (e.g., copyright, plagiarism, privacy, the use of on-line resources). Their exploration of these issues will help them understand how to use the tools responsibly.

- Lead a class discussion about the problems created by computer viruses. Have students suggest practices for avoiding viruses and dealing with a virus "infection" after one has occurred.

- As part of a character education unit, discuss some ethical considerations involved in using electronically retrieved information. To confirm their understandings, have students create a list of references or a bibliography that credits the works and on-line resources accessed for a project.

- As part of personal planning, have students work in cooperative groups to create a list of rules to follow when creating passwords. Suggest that they post these rules beside their computers in the classroom.

- Have students develop a list of ways to find help when faced with a problem in using information technology tools (e.g., ask a peer, consult help screens, read the manual or guidebook).

Suggested Assessment Strategies

As students explore career opportunities in the field of information technology, they become aware of the need for sophisticated skills and for the responsible use of technology tools. Students demonstrate their abilities to use software features effectively by creating and modifying electronic documents. The extent to which they work responsibly can be assessed through observation as they use sources such as the Internet.

- With the class, generate and post a list of suggestions for problem solving when using technology tools (e.g., use on-line help, ask a peer, refer to a manual). Note the extent to which students are self-reliant and able to assist others when using technology tools.

- Discuss the use and potential misuse of information technology tools, including issues such as privacy of information, copyright, and plagiarism. To assess students' understanding, ask:
  - What are some examples of how information technology tools can be misused?
  - What should you do if you find information belonging to someone else (e.g., computer disks, passwords)?
  - Why is it important to cite the sources of your information?

- Discuss proper etiquette or conduct when using electronic messaging systems. Have students save and print their e-mail correspondence and use their collections as a basis for self- and peer assessment. Look for evidence of appropriate content and language.

Suggested Assessment Strategies (continued)

- Observe students as they use a keyboarding program to improve speed and accuracy. Use a checklist to assess students' proficiency with specific skills (e.g., correct posture, eyes on the copy, use of home row keys, correct finger reaches, use of numeric keypad). Students may use the same checklist to conduct peer assessments.

- Assess students' knowledge of spreadsheets by observing how they organize and enter data; have students print out completed sheets for further review.

Recommended Learning Resources for Students

Print Material
Computers: A Visual Encyclopedia

Software
Mavis Beacon Teaches Typing
Microsoft Word
Microsoft Excel
Microsoft PowerPoint
Microsoft Internet Explorer
Kid Pix
Inspiration

Recommended Resources for Teachers

Print Material
Computer Basics by Teacher Created Materials
Inspiration in the Classroom

Curriculum Framework, Section 2: Middle School

Computer Literacy Foundations - Grade 7 - 8

Prescribed Learning Outcomes

It is expected that students will:

- Learn the necessary computer skills to succeed in middle and high school classes.
- Use a computer as an effective tool for learning.
- Enter, save modify and retrieve information using a variety of software.
- Use appropriate keyboard techniques to enter information into a computer.
- Practice behaviors that demonstrate self-reliance when using technology tools.
- Demonstrate a concern for the responsible use of technology and resources.

Skills Taught	**Level of Instruction**
Keyboarding	Student continues to practice his skills and increase competence. New training software is introduced.
Pointing Devices	Skill is inherent with computer use.
Word Processing	Advanced editing and formatting skills are taught. Research paper and letter formats are taught.
Spreadsheet	Advanced data entry techniques, formulas and functions are introduced.
Database	Database setup, data entry, and reports are introduced using the AppleWorks database application

Suggested Instructional Strategies

Students develop an understanding of the impact of information technology on their daily lives, careers, and society. They use technology tools in their daily lives to solve problems at school and at home. Students become aware of the need to maintain and manage data and technology resources responsibly.

- Give instruction for and have students practice basic ten-finger touch-typing methods in order to enter information efficiently.
- Have students write and edit various business letter and research papers. Discuss the elements necessary to convey content in an easily understood manner.

Suggested Assessment Strategies

Students broaden their knowledge as they are introduced to new software and more powerful techniques in the manipulation of information, and are introduced to the inner workings of stand-alone computers and the basics of computer networks.

- Observe students as they use a keyboarding program to improve speed and accuracy. Use a checklist to assess students' proficiency with specific skills (e.g., correct posture, eyes on the copy, use of home row keys, correct finger reaches, use of numeric keypad). Students may use the same checklist to conduct peer assessments.

- Assess students' knowledge of spreadsheets by observing how they organize and enter data; have students print out completed sheets for further review.

Recommended Learning Resources

Software
AppleWorks – database
Microsoft Word
Microsoft Excel
Mavis Beacon Teaches Typing
Microsoft Internet Explorer

Curriculum Framework, Section 3: High School

Grades 9-12

Prescribed Learning Outcomes

Upon graduation from Gilbertsville-Mt. Upton Central School, it is expected that students will:

- Demonstrate proficiency in the use of technology tools commensurate with the skills necessary to enter and succeed in the world of work and higher education.
- Demonstrate the ability to formulate questions and to use a variety of sources and tools to access, capture, and store information.
- Use appropriate information technology terminology.
- Create and modify documents, spreadsheets, and multimedia presentations.

Current computer based or related courses:

- Business Analysis / Business Computer Applications (BA/BCA)
- Computer Aided Drafting and Design (CADD)
- Digital Publishing

Outcomes, instruction, and assessment for these courses are accessible as part of various GMU curriculum listings. Descriptions of these courses are listed below:

<u>BA/BCA</u>
This course is designed to give students a basic knowledge of computer applications and how they fit into the business system. Students will learn about the functions of management, how a business raises capital, and the components of marketing. Students will learn the basics of word processing, database, spreadsheets and graphics. Students are then asked to apply these computer applications to areas of the business system.

<u>CADD</u>
This is an introductory course to design and drafting using AutoCAD software. Students learn the command structure of the software and apply that learning to create industry quality drawings of mechanical and architectural parts, structures, & products. The focus of the first part of the course is on two-dimensional drawings, while the second part of the course focuses on three-dimensional modeling techniques. The course is typically offered to 11th & 12th grade students with previous experience with manual drafting techniques, such as architectural and/or mechanical drawing.

<u>Digital Publishing</u>
Students will be instructed in the use of computer programs and technologies integral to the area of publishing, in the form of printed material and Internet web pages. Students will be instructed in how to perform page layout for common document types such as flyers, pamphlets, and books, as well as digital photography and digital photo and graphic editing. Web page publishing and using commercially available website editing software will also be taught.

GMU Technology Planning
Projected 3 Year Budget Cycle

All funding for In-house training and purchases, and IPA (Installment Payment Agreement) payments will be provided through appropriations in the GMU general budget. Grant funds, when available, will be used to purchase additional equipment and/or training.

2007-2008:

Staff Development:

In-house Training / Transition training with new equipment
GMU Intranet Resources
BOCES Training
BOCES Online Resources

Projected Cost: $14,000

Hardware Acquisition:

Broome IPA Purchases:
File server for storage of student work / portfolios
Replacement of classroom computers
Multimedia presentation equipment
Wireless networking equipment

Projected Cost: $47,000

In-House Purchases:
Computers & peripherals to account for replacements due to attrition

Projected Cost: $3,000

Software Acquisition:

In-House Purchases:
Student Information System updates & support
Library software updates & support
Updates of Internet filtering software
Help Desk / Workstation control software
Other software upgrades as necessary

Projected Cost: $18,000

Internet:

Regional network service via BT-BOCES

Projected Cost: $35,000

GMU Technology Planning
Projected 3 Year Budget Cycle (Continued)

2008-2009:

Staff Development:
In-house Training
GMU Intranet Resources
BOCES Training
BOCES Online Resources

Projected Cost: $13,000

Hardware Acquisition:
Broome IPA Purchases:
IPA Service Payments

Projected Cost: $47,000

In-House Purchases:
Computers & peripherals to account for replacements due to attrition.

Projected Cost: $5,000

Software Acquisition:
Enrichment - Core Areas
Remedial Software - Core Areas
Student Information System updates & support
Library software updates & support
Updates of Internet filtering software
Other software upgrades as necessary

Projected Cost: $15,000

Internet:
Regional network service via BT-BOCES

Projected Cost: $30,000

GMU Technology Planning
Projected 3 Year Budget Cycle (Continued)

2009-2010:

Staff Development:
In-house Training
GMU Intranet Resources
BOCES Training
BOCES Online Resources

Projected Cost: $13,000

Hardware Acquisition:
Broome IPA Purchases:
IPA Service Payments

Projected Cost: $47,000

In-House Purchases:
Computers & peripherals to account for replacements due to attrition.

Projected Cost: $5,000

Software Acquisition:
Enrichment - Core Areas
Remedial Software - Core Areas
Student Information System updates & support
Library software updates & support
Updates of Internet filtering software
Other software upgrades as necessary

Projected Cost: $15,000

Internet:
Regional network service via BT-BOCES

Projected Cost: $30,000