Township of Union Public Schools

County Code: 39
District Code: 5290

Technology Plan
2013 - 2016

Township of Union Public Schools

District Profile

The Township of Union is a densely developed diverse community, located in north-central Union County. Union is a close-knit community of over 56,000 residents. The Township of Union is bordered by the Union County municipalities of Elizabeth, Hillside, Springfield, Kenilworth and Roselle Park, and the Essex County communities of Irvington, Maplewood and Millburn.

The school district is comprised of ten schools, an administration building, and an athletic complex. The ten schools are structured into six elementary schools, pre-Kindergarten through grade four; a central school, Central Five, where all fifth grade students attend; two middle schools, grades six through eight; and a comprehensive high school, grades nine through twelve. Currently undergoing construction, Central Five School is closed. For the school year 2012-13, approximately 50% of our current fifth graders attend Hamilton School. The remaining fifth graders attend Connecticut Farms and Hannah Caldwell Elementary Schools. The anticipated re-opening of the Central Five School is September, 2013.

As of March 2013, the student enrollment for the Township of Union Public Schools was approximately 7550. The student body is comprised of a diverse and multicultural population in which over fifty different languages are spoken at home. The district currently employs six hundred ninety-nine certificated and support staff. The district's operating budget for 2012/2013 is approximately one hundred twenty-five plus million dollars inclusive of local tax revenue, state and federal aids, and grant funds.

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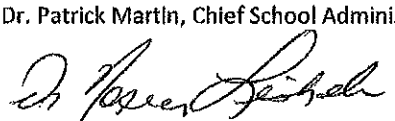
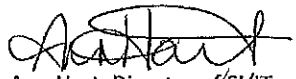
Technology Planning Committee

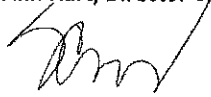
Dr. Patrick Martin, Chief School Administrator



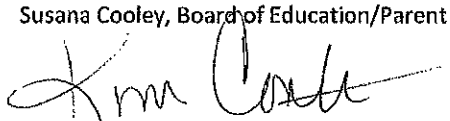
Dr. Noreen Lishak, Assistant Superintendent



Ann Hart, Director of SI/IT

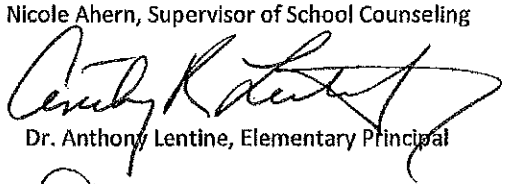


Susana Cooley, Board of Education/Parent

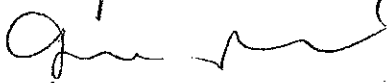


Kim Conti, Director of Special Services

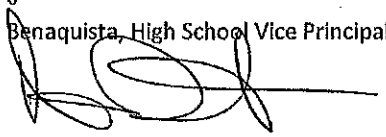
Nicole Ahern, Supervisor of School Counseling



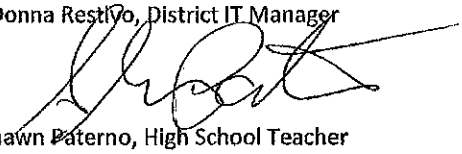
Dr. Anthony Lentine, Elementary Principal



Gerald Benaquista, High School Vice Principal



Donna Restivo, District IT Manager



Shawn Paterno, High School Teacher

EXECUTIVE SUMMARY

Preface

The document that follows is an educational technology plan. As such, it is designed to serve as a planning guide not only for the use of technology in the educational process, but also in the management and administration of such. It is extremely important that as school districts continue to increase the infusion of technology into their curricular and physical infrastructures, they do so with the utmost care and with assured understanding of all aspects of the technology and the impact it can have on our students.

Technology is a tool that extends human capabilities to solve problems. Educational technology encompasses the instructional and learning theories dealing with how our children learn. Technology can, and should, be used to assist students in the acquisition of knowledge and understanding while enhancing their readiness for college and careers in the future. While it is important that the teacher remains the facilitator of learning, it is imperative that technology increasingly act as one of the daily academic tools available to students to increase comprehension, knowledge and educational experiences.

Educational technology encompasses a broad range of what technology is considered to be. Included in this realm are computers, laptops, tablets, e-readers, scientific and graphing calculators, video and data communications, interactive video, satellite communications, television, robotics, interactive panels and boards, the Internet, as well as a plethora of software and applications. Educational technology should maintain a primary focus of aiding in student learning. The focus of technology should not only be the acquisition of knowledge and skills necessary to confidently utilize the technology as a tool to solve problems, create ideas, and act as a resource but should also maintain a focus on aiding students in the comprehension and awareness of both basic and difficult concepts.

Introduction

This is the *eighth edition* of the District's Technology Plan conceived through the efforts of a district/community based planning committee process. The current three-year plan reflects the strides the district has taken through the completion of previous action plans' projects as well as the inclusion of new technologies, information and standards promulgated through the Department of Education and the IT industry.

The district has maintained its focus of incorporating technology into every possible aspect of the educational process. As technologies are ever changing with increasing possibilities, the task to remain current is grand. There are no hard and fast guidelines or guarantees. Adding to the complexity is the ever- changing faces of technology and the spiraling costs of initial purchase, ongoing maintenance, management, and connectivity. This *eighth edition* of the Technology Plan provides for continued growth in all areas and will serve as a planning, budgeting and

implementation guide for the community, students, teachers, staff, and administrators.

Along with remaining aligned with the NJCCCS, we are dedicated to be fully prepared for the web-based testing scheduled to begin in 2014. New Jersey is part of the consortium of 22 states striving to gauge student readiness for college and careers after high school. The Partnership for Assessment of Readiness for College and Careers (PARCC) web-based assessments will measure student progress beginning in grade 3, and will be fully web-based. The PARCC assessments are scheduled to be ready for states to administer during the 2014-15 school year. We are committed to preparing our teachers, students, and schools with the knowledge, tools, and materials necessary to be successful on the PARCC assessments as well as exhibiting the skills necessary to assure college and career readiness.

Vision/Mission Statement

The Township of Union Public School System is committed to utilizing the resources made available by modern technology to enhance and enrich learning opportunities for our students. Our vision is to continue to provide a technologically-rich environment by incorporating technology into all aspects of learning, integrating learning theories based on the inclusion and effects that technology has had on daily lives. We envision continually increasing the effectiveness of our technology via our educators and support staff. The Board accepts technological resources as vital tools for learning and working in a modern society, and feels technology should be an integral part of all programs and departments in the school district. Such a commitment shall include, but not necessarily be limited to, continual restructuring of the curriculum to increasingly incorporate technology as an enhancement to learning, further supporting the New Jersey Core Content Curriculum Standards (NJCCCS). We will continue to increase the amount and depth of staff training, to assure all personnel are comfortable and confident with the technology available in the district. We will continually provide LANs and WANs for inter- and intra-district communication, controlled access to the Internet, offer district email, and maintain an on-line student information data-base to be utilized by both parents and staff.

In addition, New Jersey's membership in the Partnership for Assessment Readiness for College and Careers (PARCC) has given new focus on the technology requirements available to our students. The new K-12 on-line assessments are designed to measure student readiness for college and careers. Our vision is have both technology and students be prepared for the anticipated 2014-2015 school year administration of the PARCC assessments.

Technological resources are intended to enhance the delivery of instruction. Our technology will support all areas of curriculum, as well as the educational and administrative needs of students, staff, and district personnel. Through the Board of Education's investment, the school community will be empowered to use technology as a tool for learning, a means of expanding access to information, and as a methodology for processing information in more productive and stimulating environment.

TECHNOLOGY OVERVIEW

Current Technology Networking and Telecommunications Equipment

In accordance with the Facility Standards for Technology in New Jersey Schools our network consists of Communication Equipment Rooms (CERs), Communications Closets (CCs), and Communication Outlets (COs) for the physical connectors of information exchange. All buildings within the district have full networking capabilities. There are COs in every classroom with 10/100/1000 base-T Ethernet connectivity. All data operation wiring is a minimum Category 5 wire. Wireless access points are also throughout each of the districts buildings for the use of portable electronic equipment. Surge protection is a standard in all CERs and CCs. The CER within each building functions as a demarcation point and in some instances also houses the file server for that dedicated building. All CCs within each building consist of Cisco networking equipment. The CCs act as the distribution point for communications either to the end user or to the communication outlets in other/additional user areas. In most instances the CERs and CCs are facilitated within the same room. Lease-lined fiber optic cable (100MB bandwidth) inter-connects each of our district buildings in a star topology.

Inventory of Infrastructure

Administration Building – Technology Room:
Cisco 3550 switches for data distribution, (1) LAP1131AG for wireless access, One (1) rack mounted APC UPS.

Union High School – Technology Wing:
Cisco 6500 series chassis switch for data distribution. Main district servers are implemented on a VMware consolidation solution that consists of two (2) Cisco Catalyst 3750s; three (3) Power Edge R710 servers for storage for virtual environment; one (1) Dell Equallogic PS6000E. All VOIP telephony equipment is housed in the server room with a dedicated failover power source. Two (2) rack mounted APC UPSs are also dedicated for servers and switches.

District Disbursed:
Cisco 3750 switch w/ single mode fiber located at demarcation point within each district building with Rack Mounted Fiber Panel – provided by Comcast (100 MB bandwidth)
All buildings have a MDF and at minimum 1 IDF. Each unit is equipped with rack mounted APC UPSs, Cisco 3500 series and/or 2900 series switches for data distribution (high school has a Cisco 6500 series in MDF), and one (1) file/print/active directory server.

Technology Equipment and Networking Capacity:

Multimedia systems with LCD projectors are the minimum platform for instructional use. Small form factor computers with flat panel monitors will continue to be the standard workstation for all

computer lab environments and classroom teacher stations. We are looking into converting some multipurpose computer labs into thin client environments, as it will reduce overall costs and maintenance. Portable devices are becoming more widely used. Interactive whiteboards (Smart Boards) have been introduced into the majority of district classrooms, and are increasingly becoming more widely used. We will continue to integrate these devises into more classrooms until they are integrated into every classroom. Hardware upgrades will continue as necessary in order to continue to meet the needs and requirements of more demanding client and server software implementations. All hardware will continue to be maintained at a functional revision level. District-wide, all computer environments will continuously be upgraded and will maintain high-speed laser monochrome printers. We will continue our efforts to fully integrate color-laser printers into all computer labs for site use. Specialized servers with ever-increasing content demands, such as centralized databases, security, streaming media servers, and application servers will remain a requirement.

Fiber, Ethernet, or subsequent standards will continue to be applied in the design of WAN and LAN backbone connections. The network infrastructure will evolve into higher bandwidth standards as media and supporting equipment become proven and economically feasible. Higher bandwidths will require continued upgrades to routing devices, hubs, switches, network interface cards and other elements of network infrastructure.

Software Used for Curricular Support and Filtering:

The district will continue to maintain and update a standard set of software for educational and administrative uses. The Microsoft Office Professional Suite will be maintained as the district standard for word processing, spreadsheet, presentation, and database media. Other instructional software will be monitored and upgraded as necessary to keep pace with evolving operating system standards; server software will parallel this evolvement.

Each student and staff member using the computer network is guided by a board approved Acceptable Use Policy (Appendix A). The district will continue to integrate security and protection systems to enable students and educators with safe, curriculum-centered technology use. The district will continue to evaluate Internet filtering software options and apply filtering software in compliance with the Children's Internet Protection Act (CIPA).

Technology Maintenance Policy and Plans:

The district will continue to maintain a full array of maintenance agreements that cover its computers, printers, servers, copiers, telecommunications capabilities, etc. These maintenance agreements will continue to be reviewed annually and are renewed at the beginning of each fiscal year as appropriate.

Telecommunication Services:

In the spring of 2008, our phone system was reconfigured to reside mainly on an Avaya VOIP system. The Centrex system is no longer part of our telephony; POTs for approximately 100 lines covers

auxiliary lines within the district. Telephony continues to evolve toward workstation integration with voice and data.

Technical Support:
We have a certified staff that maintains the equipment and sees to upgrades or fixes as necessary. Our current staff of seven is composed of a Director, manager, system administrator, and four technicians, one of whom is designated to data submissions. In order to support the increasing levels of complexity and provide assistance in its use as an instructional and management tool, our staff needs to remain current on all aspects of technology. As the technologies continue to expand and the amount of technology incorporated into the district increases, additional training of our staff, as well as possibly an increase of staff will remain to be a necessity.

Facilities Infrastructure:
The district will continue applying HVAC equipment to all computer environments, with consideration made to the sound transmission levels of those systems. Additionally, we will continue applying electrical standards and upgrading our electrical systems to provide adequate and uninterrupted levels of service and to afford adequate protection of equipment. Planning for possible new construction and existing building renovations will include provisions for a comprehensive review of electrical capacity requirements to ensure that technology enhancements are considered and included in project engineering and design.

Other Services—Security:
The advent of technology has increased the potential for creating for a safe environment for teaching and learning. The technology infrastructure will continue to grow. This includes integrated security and protection systems, such as telephones in every classroom, warning devices, monitoring cameras, and individual computer logons. Bar-coded identification cards have been issued to all staff and students (grades 6-12). Integrating additional uses for the identification cards, such as scanning in and out of the buildings is a focus. Security systems to enhance visitor security within the buildings are a priority. Security cameras and video have and will continue to be added to all buildings.

Educational Technology Environment:

- All elementary schools have a computer lab with a minimum of twenty-four (24) computers.
- All elementary schools have at least two (2) computers for student use in every classroom.
- Both middle schools have three (3) computer labs of twenty-four (24) computers.
- High School has two (2) labs of twenty-four (24) computers available.
- High school has four (3) labs of at least twenty-two (22) computers dedicated to the Business Program.
- Every high school classroom has at least one (1) computer available for teacher use.
- All media centers have computers available for on-line research.
- Middle school and high school media centers have at least twenty-four (24) wireless laptops available for Internet access.

- High school and middle school libraries have flexibly accessed media centers for circulation and instruction.
- All classrooms have the ability to access the Internet through available communication outlets.
- All schools have wireless access points throughout the building for use with portable electronics.
- All Child Study Teams and Speech Language Specialists have access to a desktop or laptop for IEP development.
- Teachers have access to audio visual tools including televisions, DVD players and access to LCD projectors.
- Interactive white boards have been integrated into the majority of classrooms district wide.
- Hamilton School (fifth grade) School has two (2) PCs in every classroom.

Assistive Technology

Assistive technology is used to increase, maintain, or improve the functional capabilities of children with disabilities. Our goal is to assist school teams in matching technology with student needs to access and support all educational programs. The district will continue to provide assistive technology support to students in the areas of communication, written production, literacy, computer access and adaptive classroom participation. District staff will continue to be apprised of new assistive technologies and receive training that supports the use of this technology as needed to ensure that all students' have equal access to the curriculum to support IEPs, ISPs and 504s.

The following are assistive technology devices used by the district's special education students:

- 6 – Alpha Smart 3000
- 9 – Neo Writer
- 1 – Keyboard for one hand and one finger
- 1 – Rifton desk and legs
- 4 – Boardmaker
- 2 – Multi Channel Transmitter with audio shoe
- 2 – Go-Tech- Talk
- 2 – E- Talk
- 1 – Dyma Myte 3100
- 2 – Tech Speak
- 2 – FM System (Bag of Sound)
- 1 – EZ Listener FM System
- 1 – Micro link Freedom Multi Channel FM Receiver
- 1 – Partner +4 Communication
- 3 – Phonic Ear Easy Listener FM System
- 1 – Dynovox M3 and carrying case
- 1 – Smart 128
- 1 – Totable Sound Field FM System
- 1 – Dyno Mini FM System
- 3 – Comtek FM Systems

- 6 – Audio Enhancement FM System
- 3 – New Listen Tech System FM System
- 1 – EZ Talk with carrying case
- 1 – PEC- Picture Communication Symbols
- 1 – Voice Amplifier
- 1 – A+ Amplification System

District Web Site

The district's web site has been recently updated and continues to provide a portal for sharing information with the entire community, including students, parents, and staff. The user-friendly site is designed to be a comprehensive and thorough source of information and is regularly updated with the latest district news, calendars, workshops, events and announcements. Also included are the latest policies, resources, and Board of Education minutes. Educational and relevant links are included and updated frequently ensuring easy access to available resources.

With a main district page, subpages for each school, and department links, the overall design and structure is governed by the Director of Technology. The applications, resources and functions of the website continue to increase. The website is an important means of communication between the school district and the community; the design and structure of the site is intended to provide user-friendly navigation and features. Some of the features include district web mail access, Professional Learning Portal, and links to our on-line card catalog system. Staff, parents, guardians and students can also access the on-line student information system. The website also links to our district intranet. While in district, staff has access to calendars, schedules, and evaluation tools. There are links to lesson plans, guidance forms, and online resources.

Obsolescence

The ever-changing industry standards for technology and electronic information resources force rapid changes in desktop computer and related technologies leading to short life cycles for both equipment and applications. There is no particular *itemized* plan for replacement that reaches across the years of plan. Reliable operation of computers is essential.

We will continue to maintain both hardware and software at a functional revision level. Machines are determined obsolete when parts are no longer available or found too costly to replace. Obsolescence may also be determined when the system functionality lacks sufficient capacity and compatibility to meet with standard educational needs, and when curriculum design mandates updated equipment.

Each year, the annual assessment of capabilities and inventory provide exactly which components are up for replacement or upgrade. The district annually tries to upgrade or replace 25% of its 2000+ client inventory to meet current platform standards.

Cyber Safety

The district applies filtering software (Websense) in compliance with the *Children's Internet Protection Act* (CIPA). All Internet-accessible computers used by the schools, including all student, staff and administrative workstations on the Internet are blocked from all visual depictions that are obscene and/or are deemed inappropriate are blocked for both minors and adults. All Internet activities are monitored and reported (if deemed necessary) through our filtering software.

Each student and staff member using the computer network is guided by a board approved Acceptable Use Policy (Appendix A). The district will continue to integrate security and protection systems to enable students and educators with safe, curriculum-centered technology use.

The district encourages schools to educate students and parents/guardians alike about online safety awareness. Schools discuss online safety in the computer lab environments (see 8th grade Curriculum Guidelines for an example, Appendix B), and in some cases schools have offered and held events for the community at large relating to online safety.

Needs Assessment

Needs assessments are done continually throughout the year. Using the current status of the available technology and the level of understanding of the staff of said technology, the needs of the district is determined in a variety of ways. Future needs are determined via the evaluation of technology plans, new technology available and the requirements established by the Department of Education. The new PARCC assessment requirements as well as teacher evaluation tools will have a great impact on our district needs. The main barriers we consistently face are funding, training and time.

Staff's *current practice* in integrating technology across the curriculum:
Education, training and delivery of new technology are continually and prominently mentioned by staff as an area in need of attention. Workshops and professional development have been and will continue to be offered throughout the school year. As new technologies and applications are introduced into the classroom and updated technology enhanced curricula are written. The relevant technologies are incorporated. Additional staff development sessions are being scheduled to assist the teachers in the understanding and incorporating technologies.

Teacher and library staff technology proficiency summary:
The district's self-assessment provides that an increasing number of instructional staff is proficient in the use and understanding of educational technology. The majority of the staff values the importance of integrating technology into all aspects of the learning environment. Most of the staff is proficient and comfortable with everyday computer usage, including word processing, email, our student database, and the use of inter-active boards. Training is necessary and ongoing for the student information system and the on-line evaluation tools and resources.

Current educational environment:
The increasing amount and usage of technology in the everyday classroom has determined that teacher skills are fundamental for effective use of instructional technology. As further advancements in technology become integral parts of the K-12 environment, the need for teachers to remain literate with the technological advances to use these tools becomes vital. As dictated by the updated curricula, teachers are increasingly infusing new and advanced technologies into their daily lesson planning. Therefore, the need to assure that all professionals within the district are aware of what is available and have been trained on the resources is imperative.

Due to PARCC requirements, there is also a need to increase the comfort level of students on keyboarding and data input skills. Teachers and staff will also need to be trained to efficiently administer the new on-line assessments.

Need 1:
The infusion of more hardware, upgraded systems, and increased bandwidth available to classroom and learning environments is imperative. Supplementary technologies designed to improve instruction and methods of presentation will enhance student comprehension. Suitable machines and internet access is mandatory for successful administration of the PARCC.

Objective 1: To create and maintain technology enhanced educational environments with access to the most current advancements in educational technology.

Objective 2: Establish budgetary funding designed to allow the district to facilitate the purchase and deployment of current, new, and updated technologies.

Need 2:
A continuous offering of professional development with a concentrated focus on up-to-date technological skills and understanding is necessary to efficiently and effectively utilize the available technology. Educators need to be regularly trained in order to maintain the necessary skills and confidence to appropriately integrate new technology into the curriculum and individual classrooms. Staff also needs to be further trained on the implementation of the teacher web-based evaluation tools as well as PARCC administration.

Objective 1: To continue to conduct in-service training; facilitate interest in new advancements, increase the support towards curricular goals, prepare for the administration of the PARCC, and effectively use the staff evaluation tools.

Objective 2: Establish continuous funding that facilitates the development of high quality, long-range plans that allows for the deployment of technology to be coordinated with professional development.

Need 3:
Security and the safety of our students is always a priority. Security within the buildings can be increased through technology by improving upon the identification of the staff and students. The ability to identify everyone located within the building is essential. A reliable security and surveillance system is crucial to building security and the safety of our children.

Objective 1: To increase the identification of staff, students and visitors to the buildings through electronic check-in stations at all entrances. Increased use of identification badges is vital.

Objective 2: To increase the number of and accuracy of the video surveillance system.

Installation of initial/additional cameras and systems in all buildings will assist in our ability to identify security issues within the district.

Barriers:

- Willingness of all staff to fully and enthusiastically partake and accept new advancements in technology as well as the desire to leave behind outdated methods. It is imperative that the staff maintains a strong desire to learn, to utilize and to believe in the advancements of the technology.
- Time constraints for training and implementation is an increasing issue. The abundance of applications and on-line resources for educators is constantly expanding. Keeping the staff informed and trained on technological advancements as well as maintaining a staff informed on non-technological educational developments can be challenging.
- Budgetary constraints continue to make it difficult to assure necessary funding for all aspects of technology integration and support.

THREE-YEAR GOALS AND OBJECTIVES

History

Goals and Objectives for 2010-2013

Following the guidelines of the previous technology plans, and incorporating the New Jersey Core Content Curriculum Standards for Educational Technology, as well as the National Technology Plan's focus, our goals for 2010-2013 were established into three main categories: academics, technologies, and communication.

Goal 1: Academics. Educators will attain knowledge and skills necessary to effectively and confidently use available educational technology assuring students will learn and be technologically literate, as defined in the NJCCCS.

> The Township of Union Board of Education has provided and trained staff and administrators on the infusion and usage of established technologies. We have offered, and will continue to offer, periodic training and re-training on all available software and applications. All curricula have relevant, current and appropriate educational technology infused throughout.

Goal 2: Technologies. To maintain and upgrade as necessary the technology infrastructure in order to continue to infuse and integrate current technologies into all aspects of the educational and administrative facilities of the Township of Union Public Schools to facilitate student achievement.

> Networks and connections throughout the district have been established and are continually upgraded. Media centers, computer labs and classrooms are efficiently linked through our district network. The Township of Unions School district has expanded wireless availability and connections throughout the district. While upgrades are still necessary, connectivity is more reliable and increasing at a steady rate. All learning environments have access to hardware and software designed to support and enhance successful learning.

Goal 3: Communications. To increase productivity of district administration through the use of technology for effective management of information, security and safety of the students, and efficient planning of instruction.

Through our student information system, and our networking capabilities, all aspects of student data, included but not limited to special education, economic status, limited English,

standardized testing scores are accessible through a centralized online database. Teachers and staff can update, record, and analyze demographic and educational data and information regarding their students. Administrators, staff and parents/guardians have access to view and monitor student academic achievements, attendance and conduct from anywhere there is internet access. The addition of the student information parent portal, the phone broadcast system, and the updated web-site has increased communications with parents, guardians and staff, keeping them informed on all aspects of the educational process.

Goals and Objectives for 2013-2016

Remaining consistent with past practice established by the district's previous technology plans, and incorporating a strong connection between our goals and our infrastructure, the Township of Union continues to focus its goals on three main categories: Academics, Technologies, and Communication.

Academics

Goal 1: Educators will attain knowledge and skills necessary to effectively and confidently apply available technology throughout the learning environment. Educators will infuse the importance of effectively using technology and will empower students with the confidence necessary to develop, apply, and utilize technology and computer applications designed to reinforce and validate their academic achievements. Educators and students will be technologically prepared for the on-line assessments scheduled to begin in 2014-2015.

Objective 1A:
To provide teachers, staff and administrators with the continuous and on-going professional development designed to support the infusion of new and established technologies. To annually train and retrain all instructional staff on upgraded software and its applications into the curriculum.

Objective 1B:
To offer frequent training opportunities for staff on platforms, software and hardware that is available for use in their instruction, record-keeping, and administrative roles. All staff will be familiar with technology components necessary to administer on line assessments (PARCC) in 2014.

Objective 1C:
To ensure all curricula (new and updated) contains relevant, current, and appropriate educationally infused technology throughout. While all curricula will remain aligned with the national as well as state standards (NJCCCS), there will also be adaptations to the curriculum to assist in the preparation of the students for the on-line assessments (PARCC).

Technologies

Goal 2: To maintain, increase and upgrade our infrastructure to support all educational and academic opportunities, including but not limited to the minimum requirements established by the state for the successful administration of the web-based assessments (PARCC).

Objective 2A:
To support our existing technology infrastructure, as well as the ever-increasing amount of updated technologies available, we will upgrade and increase our broadband high-speed data, voice, and video networking to all buildings, classrooms, and educational support areas. As technology increases, and in preparation for PARCC administration, we will increase our bandwidth and networking capabilities.

Objective 2B:
Upgrade, add and replace servers as needed to meet the requirements of current and anticipated data storage needs.

Objective 2C:
In preparation for PARCC testing, we will increase the district's available hardware inventory (laptops, for example) in order to meet the suggested minimum requirements established by the state.

Communications

Goal 3: To increase the use of technology for effective management of information, security and safety of the students, and efficient planning of instruction by expanding the existing web-based resources available to include on-line lesson planning, up-to-date teacher web-pages, and increased parent access to student data.

Objective 3A:
To provide staff and administrators with professional development that will support the infusion of the data-base lesson planning applications of our student information system.

Objective 3B:
To increase the available information for parents online thereby encouraging more parents to register for access to our parent portal system.

Objective 3C:
To increase staff and student identification and security by maintaining and increasing the identification badge applications and uses.

Three-Year Implementation Activity Table

July 2013 – June 2016

Goal 1: ACADEMICS

Educators will attain knowledge and skills necessary to effectively and confidently apply available technology throughout the learning environment. Educators will infuse the importance of effectively using technology and will empower students with the confidence necessary to develop, apply, and utilize technology and computer applications designed to reinforce and validate their academic achievements. Educators and students will be technologically prepared for the on-line assessments scheduled to begin in 2014-2015.

Objective 1A:
To provide teachers, staff and administrators with the continuous and on-going professional development designed to support the infusion of new and established technologies. To annually train and retrain all instructional staff on upgraded software and its applications into the curriculum.

Objective 1B:
To offer frequent training opportunities for staff on platforms, software and hardware that is available for use in their instruction, record-keeping, and administrative roles. All staff will be familiar with technology components necessary to administer on line assessments (PARCC) in 2014.

Objective 1C:
To ensure all curricula (new and updated) contains relevant, current, and appropriate educationally infused technologically throughout. While all curricula will remain aligned with the national as well as state standards (NJCCCS), there will also be adaptations to the curriculum to assist in the preparation of the students for the on-line assessments (PARCC).

Three-Year Technology Implementation Activity Table				
Objective	**Strategy/Activity**	**Timeline**	**Responsible**	**Documentation**
1A, 1B	Provide workshops for staff on skills required to effectively infuse technology into curricula.	July 2013 – June 2016	IT Director, Bldg Admin, Directors of Curricula	Workshop outlines, rosters, and dates of training.
1A, 1B	Routinely survey and evaluate staff on their technological competence to assist in determining training needs.	July 2013 – June 2016	IT Director, Bldg Admin	Survey results; meeting agendas

1A, 1B	Annually train all new personnel on all platforms, software and hardware available within the district.	Annually	IT Director, Bldg Admin	Workshop outlines, rosters, and dates of training.
1C	Review and revise curricula to assure new and established technologies are infused appropriately	Annually	Directors of Curricula	Revised, board adopted curricula
1C	Review and evaluate new technologies in order to make informed decisions regarding implementations.	July 2013 – June 2016	IT Director, Technology Department, Directors of Curricula	Meeting agendas, vendor contacts, review summaries

Goal 2: TECHNOLOGY

To maintain, increase and upgrade our infrastructure to support all educational and academic opportunities, including but not limited to the minimum requirements established by the state for the success administration of the web-based assessments (PARCC).

Objective 2A:
To support our existing technology infrastructure, as well as the ever-increasing amount of updated technologies available, we will upgrade and increase our broadband high-speed data, voice, and video networking to all buildings, classrooms, and educational support areas. As technology increases, and in preparation for PARCC administration, we will increase our bandwidth and networking capabilities.

Objective 2B:
Upgrade, add and replace servers as needed to meet the requirements of current and anticipated data storage needs.

Objective 2C:
In preparation for PARCC testing, we will increase the district's available hardware inventory (desktops, for example) in order to meet the suggested minimum requirements established by the state for PARCC administration.

Three-Year Technology Implementation Activity Table				
Objective	**Strategy/Activity**	**Timeline**	**Responsible**	**Documentation**
2A	Evaluate, update/upgrade systems	July 2013 – June 2016	IT Dept	Inventory and system assessments
2A	Increase the broadband/networking capabilities to all buildings	July 2013 – June 2015	IT Dept	Logs of dates of implementation, services, and completion.
2A	Evaluate, update, and expand wireless systems	July 2013 – June 2016	IT Dept	Log of related work orders, inventory assessments
2B	Evaluate, update, replace outdated servers	July 2013- June 2016	IT Dept	Inventory assessments, Installation date of new equipment.
2C	Upgrade and add computers as necessary	July 2013- June 2016	IT Director, Bldg Admin, Directors of Curricula	Inventory assessments, dates of purchase of new equipment
2C	Offer periodic training to staff in order to assure technology is integrated and utilized	July 2013 – June 2016	IT Director, Bldg Admin, Directors of Curricula	Workshop outlines, rosters, and dates of training.

Goal 3: COMMUNICATIONS

To increase the use of technology for effective management of information, security and safety of the students, and efficient planning of instruction by expanding the existing web-based resources available to include on-line lesson planning, up-to-date teacher web-pages, and increased parent access to student data.

Objective 3A:
To provide staff and administrators with professional development designed to support the infusion of the data-based lesson planning applications.

Objective 3B:
To increase the staff's ability to statistically analyze, evaluate and gauge student learning by

supporting and expanding uses of data-based software available.

Objective 3C:
To increase parent communications by expanding the amount of information routinely available for parents through the parent portal, webpage, and email.

Objective 3D:
To increase staff and student identification and security by maintaining and increasing the identification badge applications and uses.

Three-Year Technology Implementation Activity Table				
Objective	**Strategy/Activity**	**Timeline**	**Responsible**	**Documentation**
3A	Offer periodic and on-going training to staff on utilization of the on-line lesson planning modules available through our SIS.	July 2013 – June 2016	IT Director, Related Departments	Workshop agenda, rosters, and dates of training.
3B	Offer periodic and on-going training and support of the scoring and analysis system.	July 2013- June 2016	IT Director, Bldg Admin, Directors of Curricula.	Workshop outlines, rosters, and dates of training. Data analysis submissions.
3B, 3C	To establish and maintain up-to date staff webpages district wide. Teacher pages are now available as links through the website.	July 2013- June 2016	IT Director, Bldg Admin	Workshop agenda, rosters, and dates of training. Current teacher pages availability.
3C	Increase instructional staff use and entry of data to the on-line grading, gradebook, and student information throughout the district.	July 2013 – June 2016	IT Director, Related Departments	Dates of training, evidence of data within system.
3C	Establish increased communications with parents/ guardians via Parent Portal encouraging and supporting them to routinely access the information.	July 2013– June 2016	IT Director, Bldg Admin, instructional staff	Parental sign-up, workshop outlines, rosters, and dates of training, usage.
3D	To increase uses of student identification cards to include lunch purchases, library uses, office visitations (nurse, guidance), and attendance.	July 2013 – June 2016	IT Director, bldg Admin, office personnel	ID cards issued have increased visibility and applications.

PROFESSIONAL DEVELOPMENT

District-wide Professional Development is presented during district-wide professional development days three times per year. Full-day development is presented in September, November, and February. In addition, professional development opportunities are also offered year round in after-school elective seminars as well as in summer programs. The district focus has been on the primary goal of fostering building-based staff learning activities such as co-teaching and differentiation. During the 2012-13 school year, building principals and their staff development teams scheduled a variety of seminars and workshops that covered a number of building needs in which staff members were able to choose from on an elective basis. Topics and presenters were based on goals and objectives identified by district staff in the development of their individual professional plans for the current school year. Various workshops were also offered by the IT Department. Training and assisting teachers and staff on effectively using available technologies to enhance student learning remains a priority.

To assist with the organization of the professional learning activities, the district employs an online registry for teachers allowing them to track their professional development hours and print certification upon completion of workshops through the Professional Learning Portal. The Professional Learning Portal (PLP) is a web-based system that lists the schedule, description, and logistical details for all professional learning activities conducted in and out of the district. District staff accesses the PLP through the district website and use the system to facilitate their record keeping of their own professional development, including attendance, accumulation of hours, completion of activities, as well as the ability to maintain a professional development transcript.

Each year the district's Local Professional Development Committee (LPDC) engages in a variety of methods to assess the professional development needs of the district. Subject area supervisors regularly engage in dialogue with their respective department staff to seek input as to what curricula are in need of review and revision and what professional development activities would best respond to the identified needs of the district. Each area of the district's core curriculum is revised on a rotating basis, and the most current technology issues are infused into the curriculum as necessary during this process. The infusion of relevant technology into classrooms continues to be identified by several departments as a need, therefore, workshop sessions such as the use of PowerPoint, MS Excel, online research, district email and web-based content resources are often offered. Sessions on the use and applications of interactive white boards (Smart Boards) continue to be requested. Numerous staff development sessions regarding the on-line gradebook and implementation of other applications available through the Genesis Student Information System continue to be offered throughout the year.

The district continues to focus its staff development efforts on aligning curricula with the New Jersey Core Curriculum Content Standards and preparing teachers to plan and implement instructional experiences geared at fostering high student achievement. The district is committed to providing technology training that will enable staff members to integrate technology into the

curriculum and to support the NJCCCS. With the approach of web-based assessments (PARCC), the district foresees a need for additional training of staff to assure successful administration of the assessments.

Targeted areas for implementing development of technology are as follows:

Productivity:

- Increase the use of the student information system to include more parent assessable data, teacher lesson planning, special services, and transportation features.
- Expand the teacher's use of the student information system to include the lesson-planning features.
- Establish and increase teacher posting to webpages accessed through the web-site.
- All aspects of student data will continue to be managed. Relevant and up-to-date data will continue to be uploaded into spreadsheets for improved analysis. The ability to use the available data to prepare high quality teaching materials, lessons, and evaluations at personal workstations will be assured.

Communication:

- Use electronic mail system to maintain a reliable and instant form of communication within buildings, throughout the district, and within the community.
- Increase communication with parents by utilizing the "phone-blast" system, detailed e-mail exchanges, and expanded postings to the updated user-friendly school websites.
- Encourage more parents to access and use the SIS enabling them to remain informed of their child's progress at all times.

Information:

- Prepare the buildings, staff, and students for the web-based assessments (PARCC) to be given in 2014.
- Access current information to supplement teaching resources with electronic sources and on-line services.
- Establish, maintain and update a secure district intranet available through the website to assure all personnel have access to up-to-date district information and resources.

Instructional Resources:

- Use a variety of multi-media materials to more effectively differentiate instruction to reach students with diverse learning styles and needs.
- Plan individualized learning programs based on assessment data.
- Increase student motivation with expanded multi-media resources for class work and assignments. Guide student use of the Internet.
- Teachers and support staff will have the ability to access various websites to locate sources that support the curriculum while maintaining the appropriateness for students to use as resources.

The Township of Union Public Schools is committed to annually providing a wide range of technology training to include, but not limited to, scheduled mandatory training, voluntary in-service courses, on-campus out-sourced training, both voluntary and scheduled, and voluntary regional out-sourced training. Over the tenure of this Plan, district staff will continue, as in the past, to be scheduled into local training and provided options for attending training at off-campus sites. The focus of such training will be the improvement of personal technology skills as well as ongoing development of strategies for appropriate use of technology as an instructional and administrative tool.

Overall Professional Development Technological Needs, 2012-13 (revised annually)

Need 1:

To increase the availability of data-based statistical information. The following needs were based on feedback from formal and informal staff needs assessments, professional development surveys, grade-level meeting documentation, articulation meetings, staff meetings, Professional Learning Committee meetings, department meetings documentation, and site-based meetings. Scores on standardized tests, quarterly assessments, report cards, progress reports, formal and informal observations, tests, quizzes, discussions and data submitted were also used to develop the following needs.

- Need for more training on uses of technology linked to learning activities.
- Need for more technology equipment in the school and individual classrooms.
- Strategies for better accommodating the inclusion of special needs children in the regular education classroom.
- Additional strategies on using technology to assist students to improve their reading and writing skills.
- Additional scheduled time for teachers to meet to discuss needs within curriculum areas and grade levels in order to assist in evaluating student progress and developing strategies that are successful towards getting students to learn.
- Enhanced strategies for effectively developing, analyzing, and applying statistical data to improve student learning.

Need 2:

To assure that the school committee is using school-based performance and other data to drive professional development in the school.

- Through the use of Pearson's (Success Maker) programs, the staffs at the elementary schools have been trained in how to analyze student data in order to identify student

strengths and weaknesses, as well as best practices for program implementation.

- Through the use of the Prosper Software, teachers at the high school and middle schools are able to create, view, and analyze student achievements on the quarterly exams.
- Individual buildings have scheduled workshops that are relevant to meeting the needs of their students.
- Professional Learning Committees submit "Team meeting feedback sheets" twice a month. Information is used to determine PD activities.

Professional Development Goals for Technology (2013-2016)

Goal 1: To use technology to increase student technical knowledge and academic performance.

Objective 1	Assure access to modern computers, learning devices, and technology based instructional tools and materials to every student.
Objective 2	Fully integrate technology into the curriculum to enhance student learning.
Objective 3	Continue to implement technological alternatives for student assessment.
Objective 4	Continue to implement district technology standards.

Goal 2: Increase technological knowledge throughout the district.

Objective 1	Assign support personnel who have technology responsibilities to schools in order to assist at the school level in the planning and implementation of new technologies.
Objective 2	Continue to provide opportunities for growth and development through the use of onsite Technology Teachers, technological programs, advanced training, and the integration of technology with curriculum.

Goal 3: Further increase productivity and efficiency through the use of technology.

Objective 1	Continue to implement advancements in management software, both administrative and instructional.
Objective 2	Continue to provide upgrades in hardware within budget guidelines to address district needs.
Objective 3	Submit an annual budget outlining technology needs.

Goal 4: Systematically evaluate the goals, objectives, and strategies contained in the district Technology Plan

Objective 1	Implement use of assessment tools to review the present technical resources

and evaluate the future technology needs in the district.

Objective 2 Monitor and evaluate integration of technology with respect to increasing student performance with surveys, data analysis and checklists.

Professional Development opportunities have been scheduled throughout 2012-2013 school year, including courses on:

PowerPoint in the Classroom
Designing and updating Web Pages
Effectively using interactive white boards
Posting to the On-line Gradebook
Common-Core Standards
Using Teachscape – the teacher evaluation tool
Data-analysis

Maintaining a dialogue with the staff on their needs is imperative. Administrative, instructional, and support staff are encouraged to assess themselves and request training sessions on their needs. Additionally and consistent with the goals of this plan, we will continue to encourage school planning teams to pursue activities that will give particular attention to the specific needs of their school community in a culturally competent manner. Activities will include, but not be limited to, effective classroom practice, research and implementation strategies, curriculum analysis and review, and assessment design interpretation on technology integration.

On-going evaluation of the local PD plan will be provided for in the following ways:

- Teacher and administrator evaluation forms from all PD days, conferences attended, and in-service workshops;
- Focus group discussions between district-wide days;
- Collegial meetings on review, evaluation, and adjustments of curricular revisions;
- Observations and evaluations by administrators of staff members implementing strategies, interventions, and content;
- Analysis of district, state, and standardized assessments;
- Feedback from parent conferences, open houses, and family involvement nights; and
- Department/grade level evaluation of the impact of PD on student achievement.

Funding for Professional Development:
Funding for staff development is critical for successful implementation of technology throughout the district. To date the District has primarily funded staff development through local monies. Annually we allocate approximately $75,000 for professional development, but depending on budgetary needs, this amount fluctuates. Training is offered during district provided in-service time and after school hours. Federal Title V and IID funds are used when available. Funds are used

towards curriculum development, training, and design of staff development courses.

EVALUATION

Technology continues to change how children think, how they learn, and the skills required to become successful members of society in this technology-driven world. College and career readiness, as well as preparing our children to be life-long learners are essential elements to be considered. Acquiring knowledge and embracing change is imperative, not only for the students but for the staff as well. In today's society, with the constant advancements in technology, everyone must strive to be open to new advances in technology. The process of learning is significantly different than in the past. Technology must be used to enrich and enhance the educational process.

The integration of new technologies into curricula and classrooms is imperative. Those writing new and updated curricula will continue to design the programs of study to promote 21st century skills that integrate technologies throughout. Through staff self-assessments, we will routinely evaluate the training needs and concentrations of the professional development offered within the district. Through training and practice, educational staff will become increasingly more confident in their abilities, thereby increasingly more comfortable with the infusion of both established and new technologies into their daily lesson planning; allowing for a positive, technologically advanced learning environment.

Continual research and analysis of new developments and methods of learning, as well as appropriate budget allocations will allow the district to remain informed and modernized with relevant educational technologies. The methods of presentation of material to children, as well as the methods of assessing student progress can, and should, change as the technology does. Preparing our schools, staff and students for the web-based assessments in 2014, our goals will remain focused on preparing our students for college and career readiness. We will rely on feedback from parent/guardians, staff, administration and the students to determine if we are sufficiently meeting the needs of our students.

Indicators that our goals and objectives are being met will be evident through many facets. Analysis of staff self-assessments will provide a great deal of information. Evaluation of new and updated curricula assuring technology has been appropriately infused will provide critical information. Technology incorporated into daily lesson planning will be evaluated both through the submission of daily lessons plans as well as observations of classroom activities. Student progress towards meeting the state academic standards will be evaluated yearly, through state mandated testing. Successful administration of the PARCC is essential. Following the guidelines and minimum requirements of the web-based assessments, it is imperative that the integration of technology be infused into all aspects of curriculum. This will enhance and improve student learning as well as better prepare the students for the changing methods of assessments.

Usage records of the media center, computer labs, and individual classroom computers will assist in the evaluation of and assurance that the technology is being used appropriately. Analysis of the

correlation of student achievement to the technologies infused into the individual classrooms will allow us to adjust our applications of technology and training of the educational staff. The procurement of modern technologies to assist in assuring the safety and security of our children is dependent upon budgetary allocations.

Once the data is examined we will re-evaluate our environment, adjust our needs, and refocus our goals towards assuring our students have surpassed the minimum requirements for college and career readiness, have become and remain life-long learners. It is through our students' achievements that we will ultimately evaluate our success. The collaboration of departments, both educational and administrative, working towards the common goal of improved student achievement will be evident through the infusion of relevant technologies into our schools.

FUNDING PLAN

July 2013 – June 2014
District Funding

Due to the many budget cuts school districts are experiencing, as well as the perpetual spending limits in place, the district's future technology budget continues to be challenged. Local funding through the yearly school budget provides most of the funding support. On average, the local fair share expenditure on technology hovers around one to two percent of the annual tax levy. Through corporate partnerships, the creation of the Educational Foundation grants, *Perkins* grants and federal E-Rate support, the district has been able to incrementally move ahead with its technology agenda.

Union Township School District is committed to a financial plan that provides students and teachers with suitable and appropriate technology to support learning. It is understood that responding to the financial challenges presented by the necessity of continually improving upon the technology available to our students is multifaceted. This includes not only the initial purchase of the equipment, but it also must include the maintenance of the infrastructure to assure reliable connectivity within the district's schools, thereby assuring that every student and staff member has consistent access to technology. Staff training is essential both in use of equipment and software, as well as instructional strategies for integration of acquired technology into the daily curriculum. The district must meet the challenge of developing and sustaining a comprehensive plan designed to maintain, upgrade and replace software and hardware as required by both obsolescence and growth. Replacement and upgrading of systems is intended to insure that our staff and students have access to the current technologies available designed to enhance learning.

The following is a local funding budget created for the 2012-2013 school year to support district technology. On average technology receives $1,000,000.00 from local district funds. These funds are used specifically for hardware and software maintenance. Monies allocated are modified annually to adjust for specific needs (such as additional costs for maintenance contracts, support for district purchased curriculum software, or replacement hardware).

Budget Description	**Amount Budgeted**
Prof/Tech Services	
Admin Tech Training	$10,000.00
District Internet Filtering (Websense, 2100 users)	26,000.00
HS CAD Software Maint. Contract	4,000.00

Web Host Service	14,000.00
Service – Network Support	24,350.00
Genesis Maintenance Contract (SIS)	25,000.00
Track-IT Maint. Contract (Helpdesk)	3,200.00
Sophos Antivirus Maint. Contract	15,000.00
Telephone System and Phone Maintenance Contracts	35,000.00
Maintenance/installs not covered by standing contracts/D. Jones	36,700.00
Printer repair and services	3,200.00
Info Tech Travel	3,750.00
Supplies -- Technology	
Admin PC replacement/Wireless devices	25,000.00
Smartboard/iPad allocations	148,000.00
Microsoft -- District Licensing fees	40,000.00
Supplies Printer replacement/general hardware	47,000.00
Computers and tech supplies to classrooms within individual schools	440,000.00
Additional Funding - Equipment	
District replacement of switches/network printers/servers	100,000.00

Professional Development funding is provided by curricula accounts, as well as NIMAS- compliant resources. We have online databases such as EBSCO, World Book Online, SIRS Discoverer and Wilson Biographies that are available for district use. Further use of NIMAS-compliant curricula is being explored by the Asst. Superintendent of Curriculum.

Professional Development funding is provided through district accounts as well as NIMAS-compliant resources. District faculty and staff have access to online databases such as EBSCO, GALE, World Book Online, SIRS Discoverer, Wilson Biography and Britannica. Further use of NIMAS-compliant curricula is being explored by the Directors of Curriculum.

Funding each year will mirror current budget appropriations, growing with expanded needs. One of our main focuses continues to be to annually increase our hardware upgrades by 10%. We continue to explore lease options for expanded computer growth to further increase the amount of technology into individual classrooms on a standard budget increment, dependent upon board approval. A thin client solution has also been given our attention. We will continue to strive for best practices for manageability and cost effectiveness.

Closing Comments

The purpose of this plan is to serve as a guide to assist our students to acquiring and applying the knowledge they will need to be productive citizens in our society. Understanding that the children of today think and learn differently than those before mandates that we must create and maintain learning environments in which they can be successful. New and creative initiatives in the use of the technology to further the educational process are therefore necessary. To assure the success of our children we must assure that all educators, including administrators, attain and maintain the necessary skills and knowledge required to effectively integrate educational technology into all learning environments.

Assuring that our students have attained the knowledge and understanding necessary to exhibit that they have achieved college and career readiness is at the forefront of our program. Incorporating technology into all aspects of the New Jersey Core Curriculum Content Standards (NJCCCS) will enable students to have the knowledge and experiences necessary to be successful in our global society. With the approaching web based assessments we realize the need to constantly upgrade and add the newest technologies to our everyday learning environments.

It is the intent of the Township of Union Board of Education to provide as many avenues for the advancement of technology into the educational process as is fiscally possible and instructionally prudent. Through this plan, and future revisions, it is hoped that the goals and objectives contained herein can not only be achieved, but also exceeded.

Appendix A

Acceptable Use Policy
(Internet Use and Safety Policy)

TOWNSHIP OF UNION BOARD OF EDUCATION
File Code: 6166 Union, New Jersey
Board Policy

INTERNET USE AND SAFETY POLICY

ACCEPTABLE USE OF THE INTERNET

Purpose: To provide guidelines for access to the Internet and e-mail for students and staff in the Township of Union Public School District ("School District"). Such guidelines and procedures shall be implemented to protect against access, through computers, to visual depictions that are obscene, child pornography, or other items harmful to minors.

Limitation of Liability: The Internet constitutes an unregulated collection of resources that change constantly, so it is not possible to totally predict or control the resources that users may locate. The Board of Education of the School District (the "Board") cannot guarantee either the accuracy of the information or the appropriateness of materials that a user may encounter. Furthermore, the Board shall not be responsible for any damage users may suffer, including but not limited to, loss of data or interruptions of service. Nor shall the Board be responsible for financial obligations arising through the unauthorized use of the system.

District Rights and Responsibilities: The School District's computer system and all computer software and hardware made a part hereof ("Computer System") is the property of the School District. The district retains the right to monitor all access to and use of the Computer System and the Internet and district e-mail systems.

The Chief School Administrator shall designate, subject to the approval of the Board, a coordinator of the district's technology networks/systems. Said coordinator shall, among other things and subject to Board approval, develop a form of agreement of acceptable use ("Acceptable Use Agreement") for the use of the Computer System.

Each principal shall coordinate that portion of the Computer System in his/her building by overseeing all activities for that building in accordance with this policy; ensuring that the teachers receive proper training in the use of the system; ensuring that students are adequately supervised when using the system; maintaining executed Acceptable Use Agreements; and interpreting this Internet Safety Policy as the basis for acceptable use of the Computer System at the building level.

ACCESS TO THE SYSTEM

This Internet Safety Policy shall govern all use of the Computer System regarding tenets of acceptable use. Sanctions for student misuse of the Computer System shall be included in the disciplinary code for students. Employee misuse of the Computer System may result in appropriate discipline in accord with the collective bargaining agreement and applicable laws and regulations governing use of the Internet and e-mail systems. In addition, the Board shall ensure the acquisition of blocking/filtering software termed a *Technology Protection Measure* to deny access to certain areas of the Internet.

World Wide Web: All students and employees of the Board shall have access to the Web through the district's networked or stand-alone computers. Execution of the Acceptable Use Agreement shall be required of each such individual and/or his/her parent or guardian. To deny a child access, parents/guardians must notify the building principal in writing that they do not want a student to have access to the Internet. Any misuse of the Computer System as outlined in the district's Acceptable Use Agreement will result in the removal from accessibility.

Student E-mail Accounts: Student access to e-mail shall be through a staff account only and solely for the purpose of communicating on educational matters. To deny a child access to the use of e-mail, a parent/guardian must notify the building principal in writing. Any misuse of the Computer System as outlined in the district's Acceptable Use Agreement will result in the removal of the accessibility.

Employee E-mail Accounts: All certificated staff and support staff with a defined need shall be granted an e-mail account on the Computer System. Execution of the Accepted Use Agreement shall be required of each such individual. Any misuse of the Computer System as outlined in the district's Acceptable Use Agreement may result in the removal of the accessibility.

Supervision of Students: Qualified staff shall supervise student use of the Internet.

DISTRICT WEB SITE

The Board directs the Chief School Administrator or designee to establish a School District Web site. The purpose of the School District Web site will be to inform the public and the district educational community of School District programs, policies and practices. Individual schools are directed to forward information concerning its

sub-web page. The Chief School Administrator or designee shall, subject to Board approval, publish and disseminate guidelines on acceptable material to be published on the School District Web site.

MINIMUM WEB SITE CONTENT

The School District Web site shall contain such information as will allow users to be reasonably well informed concerning the activities of the School District and each of its schools. The Web site shall contain, at a minimum the following:

Public Notices of all regular and special meetings of the Board;
All Board meeting agendas, including updates and modifications;
Minutes of all Board meetings (to the extent that the content is not protected by exception under the provisions of the New Jersey Open Public Meetings Act;
The entirety of the School District Policy Manual, including all currently effective amendments and modifications thereof;
Identification and reasonable information, including email links, to each Board member, Superintendent, Assistant Superintendents, Supervisors, building principals, and other key School District officials and employees as will allow members of the public to know and communicate with such individuals;
The Superintendent's regular report to the Board and the Community on the state of the School District and its schools; and
Comprehensive and currently updated District wide school calendar and scheduled events.

PARENTAL NOTIFICATION AND RESPONSIBILITY

The Chief School Administrator shall ensure that parents/guardians are notified about the School District network and the rules governing its use. Parents/guardians shall sign an Acceptable Use Agreement to allow their child(ren) to have an access to the Internet and, through staff e-mail accounts only, to use e-mail. Parents/guardians who do not wish their child(ren) to have access to the Internet must notify the principal in writing.

ACCEPTABLE USE OF DISTRICT NETWORKS AND COMPUTER SYSTEMS

Student Safety Practices: Students shall not post personal contact information about

themselves or others. Nor shall students engage in any kind of personal contact with

individuals they meet online. Attempts at contact from such individuals shall be reported immediately to the staff person monitoring that child's access to the School District network and/or the Internet. Personal contact information includes, but is not limited to, names, home/school/work addresses, telephone numbers and/or personal photographs.

Prohibited Activities:

Users shall not attempt to gain unauthorized access to the School District Computer System or to any other computer system in the School District, nor shall they go beyond their authorized access. This includes attempting to log in through another individual's account or accessing another's files.

Users shall not deliberately attempt to disrupt the district's computer system performance or destroy data by spreading computer viruses, worms, "Trojan Horses," trap door program codes or any similar product that can damage computer systems, firewalls, servers or network systems.

Users shall not use the School District computer system to engage in illegal activities.

Users shall not access material that is profane or obscene, that advocates illegal acts, or that advocates violence or hate. Inadvertent access to such material should be reported immediately to the supervising staff person.

Users with e-mail accounts are prohibited from receiving or forwarding any messages or material that is profane or obscene, that advocates illegal acts, or that advocates violence or hate. Inadvertent access to such material should be reported immediately to the supervising staff person.

Users shall not plagiarize material that is available on the Internet.

Users shall not infringe on copyrighted material and shall follow all dictates of copyright law and the applicable policies of the School District.

Prohibited Language: Prohibited language applies to public messages, private messages, and material posted on Web pages. Users shall not send or receive messages that contain obscene, profane, lewd, vulgar, rude, inflammatory or threatening language or pictures. Users also shall not use the system to spread messages that can reasonably be interpreted as harassing, discriminatory or defamatory.

System Security: Users are responsible for their access codes to the Computer System and should take all reasonable precautions to prevent unauthorized access to them. In

no case should a user provide his/her password to another individual.

Users shall immediately notify the supervising staff person or MIS department representative if they detect a possible security problem. Users shall not access the Computer System solely for the purpose of searching for security problems.

Users shall not install or download software or other applications without permission from the supervising staff person.

Users shall follow School District virus protection procedures when installing or downloading approved software.

System Limits: Users shall access the Computer System only for educational, professional or career development activities.

Privacy Rights: School District employees and students can expect a reasonable right to privacy when using the School District's Computer System. However, the School District is a public school system and must adhere to applicable federal, state, and local protections against abuse of the Internet or e-mail, users must be aware that the district's MIS technology staff will monitor the Computer System and e-mail systems unannounced and on an ongoing basis for violations of this policy and/or related laws. If violations are encountered, they will be immediately reported to the School District's Chief Information Officer and subsequent and appropriate disciplinary action may be taken.

IMPLEMENTATION

The Chief School Administrator shall, subject to Board approval, prepare regulations, known as *Internet/E-mail Acceptable Use Procedures*, to implement this policy.

Date: August 16, 2001

Adopted: November 20, 2001

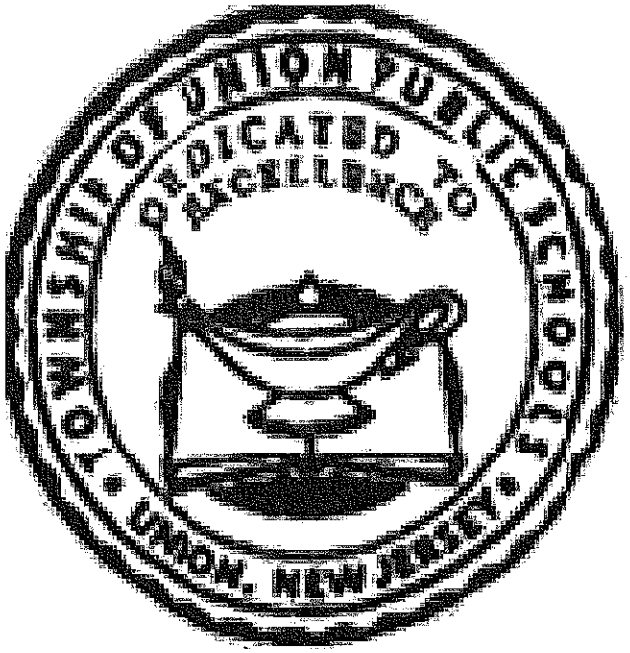
Legal References: *N.J.S.A. 2A:38A-1 seq.* Computer System
N.J.S.A. 2C:20-25 Computer Related Theft
N.J.S.A. 18A:11-1 General Mandatory Powers and Duties *17 U.S.C. Sec. 101* United States Copyright Law *20U.S.C. Sec. 9134* and *47 U.S.C 254(h)* Children's Internet Protection Act

N.J. v. T.L.O. 469 U.S. 325 (1985)
O'Connor v. Ortega, U.S. 709 (1987)

Appendix B

Grade 8 Curriculum Guide

TOWNSHIP OF UNION PUBLIC SCHOOLS



8th GRADE COMPUTER TECHNOLOGY ELECTIVE

Curriculum Guide

2012

Curriculum Guide Approved June 2012

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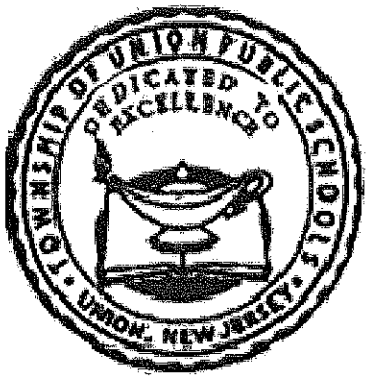

TOWNSHIP OF UNION PUBLIC SCHOOLS

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Assistant Superintendent .....Dr. Noreen Lishak

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Curriculum Committee
8th Grade Computer Technology Elective
Mr. Edward Bitenas
Mr. Richard Lorenzo

Table of Contents

Mission Statement

The Township of Union Board of Education believes that every child is entitled to an education designed to meet his or her individual needs in an environment that is conducive to learning. State standards, federal and state mandates, and local goals and objectives, along with community input, must be reviewed and evaluated on a regular basis to ensure that an atmosphere of learning is both encouraged and implemented. Furthermore, any disruption to or interference with a healthy and safe educational environment must be addressed, corrected, or when necessary, removed in order for the district to maintain the appropriate educational setting.

Philosophy Statement

The Township of Union Public School District, as a societal agency, reflects democratic ideals and concepts through its educational practices. It is the belief of the Board of Education that a primary function of the Township of Union Public School System is to formulate a learning climate conducive to the needs of all students in general, providing therein for individual differences. The school operates as a partner with the home and community.

Statement of District Goals

- Develop reading, writing, speaking, listening, and mathematical skills.
- Develop a pride in work and a feeling of self-worth, self-reliance, and self discipline.
- Acquire and use the skills and habits involved in critical and constructive thinking.
- Develop a code of behavior based on moral and ethical principals.
- Work with others cooperatively.
- Acquire a knowledge and appreciation of the historical record of human achievement and failures and current societal issues.
- Acquire a knowledge and understanding of the physical and biological sciences.
- Participate effectively and efficiently in economic life and the development of skills to enter a specific field of work.
- Appreciate and understand literature, art, music, and other cultural activities.
- Develop an understanding of the historical and cultural heritage.
- Develop a concern for the proper use and/or preservation of natural resources.
- Develop basic skills in sports and other forms of recreation.

Course Description

This 18 week elective course of study involves the continued development of computer technology skills. This curriculum is designed to build on the K-7 foundation for continuous development of computer technology. Computer technology skills will address various software applications, which include but are not limited to the following: Microsoft Office Suite (Word, Publisher, Excel, PowerPoint,) Movie Maker, Picasa, Internet Explorer, Mozilla Firefox and other applications, websites and databases that are directly aligned to the curriculum.

This computer technology course of study continues to identify the essential knowledge and skills that all students need in order to be able to succeed in a constantly changing, technology-intensive world. Using computer applications and technology tools students will conduct research, solve problems, improve learning, achieve goals, and produce projects and presentations in conjunction with the New Jersey Core Curriculum Content Standards. Students will also develop, locate, summarize, organize, synthesize, and evaluate information for lifelong learning.

Recommended Textbooks

There is no textbook required for this course.

All other class materials are created solely by the teacher from professional knowledge and extensive research.

Course Proficiencies

Students will be able to…

1. Define and use terminology pertaining to computers, multimedia, graphic design and the Internet.
2. Explore and describe a variety of careers available in the computer and technology field.
3. Demonstrate responsible and safe operating procedures when using equipment.
4. Demonstrate knowledge regarding Cyber safety, Internet safety and Etiquette guidelines.
5. Demonstrate the ability to multitask by opening and using two or more applications.
6. Demonstrate the ability to open, edit, close, and save files to the appropriate network drives.
7. Demonstrate basic keyboarding skills and techniques.
8. Demonstrate, through specific performance, correct use of various software applications, which include but are not limited to the following: MS Word, MS Publisher, MS Excel, MS PowerPoint, MS Movie Maker, MS Internet Explorer or Mozilla Firefox.
9. Demonstrate use of search engines and key words when using the Internet as a research tool.
10. Explore and describe Digital Citizenship: Copyright Laws, Internet Safety and Cyber bullying.
11. Demonstrate the ability to apply productivity / multimedia tools and peripherals for group or individual projects.

Curriculum Units

Unit 1: Word Processing Applications

Unit 2: Desktop Publishing Applications

Unit 3: Spreadsheets Applications

Unit 4: Presentations Applications

Unit 5: Digital Citizenship, Research and Information Literacy

Unit 6: Multimedia Applications

Pacing Guide- Course

Content	Number of Days
Classroom Guidelines, Procedures and Expectation	2 days
Unit 1: Word Processing Applications	12 days
Unit 2: Desktop Publishing Applications	12 days
Unit 3: Spreadsheet Applications	12 days
Unit 4: Presentation Applications	12 days
Unit 5: Digital Citizenship, Research and Information Literacy	12 days
Unit 6: Multimedia Applications	17 days
Culminating Project	10 days
Cumulative Assessment	1 day

Unit 1: Word Processing Applications

Essential Questions	Instructional Objectives/ Skills and Benchmarks (*CPIs*)	Activities	Assessments
• How can we evaluate and utilize computer software as a technology tool to communicate information to a chosen audience? • Why are digital tools important to communicate your ideas and thoughts? • How can MS Word be used to communicate effectively, organize data, display results of research, revise and edit documents, format documents?	• Explain the meaning of word processing terms. • Use proper touch typing techniques to effectively input text. • Use USB flash drives or network resources to store or retrieve files. • Import, format and size graphics. • Format text (fonts, style, color, size). • Format text (word & line spacing, paragraphs, bullets). • Edit text (delete, cut, copy and paste text). • Justify and indent text. • Use columns, borders and shading. • Use common keyboard short-cuts. • Use advanced formatting functions (margins, page orientation, page breaks, headers, footers). • Merge information from one document to another (multitask). • Edit text using spell & grammar check, thesaurus, dictionary and find & replace feature. Select and manipulate printers.	• Produce simple finished documents using the MS Word application. • Format letters, memos, tables and reports. • Create documents with advanced text formatting, WordArt and graphics using the MS Word application.	• Quizzes • Tests • Homework • Class Participation • Projects • Electronic Portfolios • Teacher Observations • Student Self Evaluation

Unit 2: Desktop Publishing Applications

Essential Questions	Instructional Objectives/ Skills and Benchmarks *(CPIs)*	Activities	Assessments
• How can we evaluate and utilize computer software as a technology tool to communicate information to a chosen audience? • Why are digital tools important to communicate your ideas and thoughts? • How can MS Publisher be used to communicate effectively?	• Explain the meaning of desktop publishing terms. • Create, save and edit a desktop publishing document. • Use toolbar commands to format columns, margins, page size/orientation and page settings. • Insert objects (Clip-art, graphics, text, shapes, Auto Shapes, WordArt). • Apply advanced formatting to objects and shapes (color, resize, copy, rotate, layer, 3-D, group, shadow, align etc.)	• Produce a simple finished document with basic text-formatting and graphics using the MS Publisher application (i.e., logo, poster). • Create a document with advanced text-formatting and graphics using the MS Publisher application (i.e., magazine cover, business cards, poster).	• Quizzes • Tests • Homework • Class Participation • Projects • Electronic Portfolios • Teacher Observations • Student Self Evaluation

Unit 3: Spreadsheet Applications

Essential Questions	Instructional Objectives/ Skills and Benchmarks_ *(CPIs)*	Activities	Assessments
• Why are digital tools important to analyze and interpret data? • How can MS Excel be used to communicate ideas and concepts representation ally through the use of graphics, spreadsheets and charts?	• Explain the meaning of spreadsheet terms. • Create and save a spreadsheet. • Enter and edit data, create formulas and use advanced functions. • Sort data and use fill options. • Change cell attributes, • Insert, delete and move (rows, columns, and worksheets). • Create graphs using spreadsheet data. • Format printing, print spreadsheets and charts.	• Create a simple spreadsheet using the MS Excel application, enter data and interpret the information. • Create a spreadsheet with advanced text-formatting, graphics and formulas using the MS Excel application. • Generate charts and graphs using the MS Excel application and interpret the results.	• Quizzes • Tests • Homework • Class Participation • Projects • Electronic Portfolios • Teacher Observations • Student Self Evaluation

Unit 4: Presentation Applications

Essential Questions	Instructional Objectives/ Skills and Benchmarks *(CPIs)*	Activities	Assessments
• How can I use multimedia applications to accomplish a variety of tasks and to solve problems? • How can multimedia tools like MS PowerPoint be used to enhance the verbal communication of ideas and concepts?	• Explain the meaning of PowerPoint presentation terms. • Independently create, save and present a multimedia project. • Independently create, and edit slides. • Change font, size, style and color. • Arrange layout of text, graphics and slide layouts. • Customize a presentation by adding transitions, sounds, animation, themes and hyperlinks. • Work collaboratively with others to plan, organize and present leaning. • Incorporate good design concepts. • Use a storyboard to preplan and organize ideas.	• Design, produce, and present a basic MS PowerPoint project using text, graphics, animation and sound. • Design and produce an advanced MS PowerPoint project using text, video, graphics, animation and sound in a specific core curriculum content area.	• Quizzes • Tests • Homework • Class Participation • Projects • Electronic Portfolios • Teacher Observations • Student Self Evaluation

Unit 5: Digital Citizenship, Research and Information Literacy

Essential Questions	Instructional Objectives/ Skills and Benchmarks *(CPIs)*	Activities	Assessments
• How can the internet be used for gathering and managing data? • How can the Internet be used for solving real world problems? • What are the appropriate uses of the Internet and intellectual property?	• Explain the meaning of Internet terms. • Work cooperatively and collaboratively to gather information and communicate results. • Develop ability to utilize search engines, key words, and advanced search. • Differentiate between Internet browsers and search engines. • Demonstrate the ability to use the Internet to access, retrieve, interpret, and evaluate information. • Understand and respect copyright laws. • Understand the district's Acceptable Use Policy. • Model appropriate online behaviors related to email Netiquette, Internet Safety, and Cyber bullying. • Discussion on how to create an appropriate email with and without attachments. • Evaluate the accuracy, relevance and appropriateness of electronic sources.	• Participate in web quests and/or internet scavenger hunts. • Use search engines to find information and research. • Use teacher approved websites to learn about Internet Safety, Cyber bullying and copyright laws. • Use a software application to create a multimedia presentation about Internet Safety and/or Cyber bullying. • Students will participate in an online learning community to collaboratively share and exchange information. • If approved, students will compose/send an email with and without an attachment.	• Quizzes • Tests • Homework • Class Participation • Projects • Electronic Portfolios • Teacher Observations • Student Self Evaluation

Unit 6: Multimedia Applications

Essential Questions	Instructional Objectives/ Skills and Benchmarks *(CPIs)*	Activities	Assessments
• How can I use multimedia applications to express a message? • How can we effectively create and enhance a presentation using the computer as a tool to present information to a chosen audience? • How can I use appropriate tools and digital resources to accomplish a variety of tasks and to solve problems?	• Create a multimedia presentation with sound, images and/or animation. • Explore and use various multimedia technologies. • Plan and present short presentations, individually or as a member of a group. • Enhance images and photos for use in publications using digital editing software. • Import text, graphics and audio files into a multimedia presentation. • Alter graphic images using filters/effects.	• Create a simple photo project by importing and editing images using Picasa or a similar application. • Create a short, simple cartoon animation on a given topic with motion, speech bubbles and sound using KerPoof or a similar application. • Create or edit a simple movie using MovieMaker software. • Participate in an online learning community to collaboratively share and exchange information.	• Quizzes • Tests • Homework • Class Participation • Projects • Electronic Portfolios • Teacher Observations • Student Self Evaluation

New Jersey Core Curriculum Content Standards
Academic Area

8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.

A. Technology Operations and Concepts

8.1.8.A.1 Create professional documents (e.g., newsletter, personalized learning plan, business letter or flyer) using advanced features of a word processing program.
8.1.8.A.2. Plan and create a simple database, define fields, input data, and produce a report using sort and query.
8.1.8.A.3. Create a multimedia presentation including sound and images.
8.1.8.A.4. Generate a spreadsheet to calculate, graph, and present information.
8.1.8.A.5. Select and use appropriate tools and digital resources to accomplish a variety of tasks and to solve problems.

B. Creativity and Innovation

8.1.8.B.1 Synthesize and publish information about a local or global issue or event on a collaborative, web-based service (also known as a shared hosted service).

C. Communication and Collaboration

8.1.8.C.1 Participate in an online learning community with learners from other countries to understand their perspectives on a global problem or issue, and propose possible solutions.

D. Digital Citizenship

8.1.8.D.1 Model appropriate online behaviors related to cyber safety, cyber bullying, cyber security, and cyber ethics.
8.1.8.D.2 Summarize the application of fair use and Creative Commons guidelines.
8.1.8.D.3 Demonstrate how information on a controversial issue may be biased.

E. Research and Information Literacy

8.1.8.E.1 Gather and analyze findings using data collection technology to produce a possible solution for a content-related or real-world problem.

F. Critical Thinking, Problem Solving, and Decision-Making

8.1.8.F.1 Use an electronic authoring tool in collaboration with learners from other countries to evaluate and summarize the perspectives of other cultures about a current event or contemporary figure.

New Jersey Core Curriculum Content Standards
Academic Area

8.2 Technology Education, Engineering, and Design: All students will develop an understanding of the nature and impact of technology, engineering, technological design, and the designed world, as they relate to the individual, global society, and the environment.

B. Design: Critical Thinking, Problem Solving, and Decision-Making

8.2.8.B.1 Design and create a product that addresses a real-world problem using the design process and working with specific criteria and constraints.

National Educational Technology Standards (NETS)

1. **Creativity and Innovation**
   - Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.
2. **Communication and Collaboration**
   - Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.
3. **Research and Information Fluency**
   - Students apply digital tools to gather, evaluate, and use information.
4. **Critical Thinking, Problem Solving, and Decision Making**
   - Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.
5. **Digital Citizenship**
   - Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.
6. **Technology Operations and Concepts**
   - Students demonstrate a sound understanding of technology concepts, systems, and operations.

New Jersey Scoring Rubric

4 – Outstanding	3 – Above Average	2 – Average	1 – Below Average	0 – Unsatisfactory
Exhibits outstanding skills in software applications.	Exhibits above average skills in software applications.	Exhibits average skills in software applications.	Exhibits below average skills in software applications.	Exhibits unsatisfactory skills in software applications.
Outstandingly observes/follows classroom rules and directions.	Above averagely observes/follows classroom rules and directions.	Averagely observes/follows classroom rules and directions.	Below averagely observes/follows classroom rules and directions.	Unsatisfactorily observes/follows classroom rules and directions.

Teacher Resource Materials

Websites

New Jersey Department of Education: www.NJDOE.com

New Jersey Technology and Assessment Proficiency (NJTAP): www.nj.gov/education/techno/techlit/tapin/

New Jersey Core Curriculum Content Standards: www.nj.gov/njded/cccs/

International Society for Technology in Education: www.iste.org

Free Online Learning: www.gcflearnfree.org

Stopbullying: www.Stopbullying.gov

NetSmartz: www.Netsmartz.org

Isafe: www.Isafe.org

Books

Kinkoph, S. W. (2007). *Microsoft Office 2007 Simplified.* Hoboken, NJ. Wiley Publishing, Inc.

Business Education Publishing; www.bepublishing.com

Excel It!
Present It!
Word It!
Access It!
Publish It!
Internet Search Activities
Skateboards, Inc.

Appendix C

New Jersey Core Curriculum Content Standards
for
Technology

New Jersey Core Curriculum Content Standards

for
Technology

INTRODUCTION

Technology in the 21st Century

Technology is uniquely positioned to transform learning, to foster critical thinking, creativity, and innovation, and to prepare students to thrive in the global economy. As engaged digital learners, students are able to acquire and apply content knowledge and skills through active exploration, interaction, and collaboration with others across the globe, challenging them to *design the future* as envisioned in the statements that follow:

Mission: *Technology enables students to solve real world problems, enhance life, and extend human capability as they meet the challenges of a dynamic global society.*

Vision: The systematic integration of technology across the curriculum and in the teaching and learning process fosters a population that leverages 21st century resources to:

- Apply information-literacy skills to access, manage, and communicate information using a range of emerging technological tools.
- Think critically and creatively to solve problems, synthesize and create new knowledge, and make informed decisions that affect individuals, the world community, and the environment.
- Gain enhanced understanding of global interdependencies as well as multiple cultural perspectives, differing points of view, and diverse values.
- Employ a systemic approach to understand the design process, the designed world, and the interrelationship and impact of technologies.
- Model digital citizenship.

Intent and Spirit of the Technology Standards

All students acquire content area knowledge and skills in: (1) Visual and Performing Arts, (2) Comprehensive Health and Physical Education, (3) Language Arts Literacy, (4) Mathematics, (5) Science, (6) Social Studies, (7) World Languages, (8) Educational Technology, Technology Education, Engineering, and Design, and (9) 21st Century Life and Careers. As they do so, they are supported by the ongoing, transparent, and systematic integration of technology from preschool to grade 12 in preparation for postsecondary education and the workplace.

In **Preschool**, technology offers versatile learning tools that can support children's development in all domains. For example, electronic storybooks can "read" stories to children in multiple

languages; adventure games foster problem-solving skills; story-making programs encourage literacy and creativity; math-related games can help children count and classify; and science activities promote inquiry and an understanding of the world through the eyes of a child. When preschoolers are encouraged to work together with electronic devices and computers, social skills are tapped as children negotiate turn-taking. However, technology should not replace the concrete, real-life experiences that are critical to a young child's learning; it must always be used in balance with other meaningful activities and routines. Technology should be embedded into children's learning centers and should enhance their learning and development during choice time as well as in small-group experiences.

In grades **K-2,** students are formally introduced to the basic features and functions of computers and demonstrate understanding that technology enables them to communicate beyond the classroom on a variety of topics. K-2 students are also exposed to elements of the design process, design systems, and a variety of technology resources, and understand the importance of safety when using technological tools.

In grades **3-4**, students understand the purpose of, and are able to use, various computer applications. They continue to develop information-literacy skills and increasingly use technology to communicate with others in support of learning, while also recognizing the need for cyber safety and acceptable use policies. Students in grades 3-4 also investigate the impact of technology systems, understand the design process, and use it for problem solving.

In grades **5-8**, students expand their capacity to use operations and applications, apply information-literacy skills, and select the appropriate tools and resources to accomplish a variety of tasks, as they develop digital citizenship. As students participate in online learning communities, collaborating in the design of products that address local and global issues across the curriculum, they build understanding of the perspectives of learners from other countries. Students at this level can apply the design process in the development of products; understand impact constraints, trade-offs, and resource selection; and solve a design challenge and/or build a prototype using the design process. Students can explain why human-designed systems, products, and environments need to be monitored, maintained, and improved, and they recognize the interdependence of subsystems as parts of a system.

In grades **9-12,** students demonstrate advanced computer operation and application skills by publishing products related to real-world situations (e.g., digital portfolios, digital learning games and simulations), and they understand the impact of unethical use of digital tools. They collaborate adeptly in virtual environments and incorporate global perspectives into problem solving at home, at school, and in
structured learning experiences, with the growing realization that people in the 21st century are interconnected economically, socially, and environmentally and have a shared future.

High School Specialization in technology enables students to design, create, and reverse-engineer technology products or systems, document the application of the design process, and understand its impact—including ethical considerations, costs, trade-offs, risks, benefits, and choice of resources. Students develop products that address local and global issues and

challenges, which are disseminated for peer review.

Revised Standards

The 2009 standards provide the foundation for creating local curricula and authentic performance assessments and emulate the philosophy and goals contained in documents produced by national technology organizations, including the Partnership for the 21st Century Skills and the New Jersey Educational Technology Plan. The organization of the strands in standards 8.1 and 8.2, as well as the content and skills within each strand, has been reconceptualized to address emerging technologies and technological applications that are needed for life and work in the global age.

- Standard 8.1, Educational Technology, is aligned to the International Society for Technology in Education (ISTE) standards and the Partnership for the 21st Century Skills framework.
- Standard 8.2, formerly Technology Education, is renamed Technology Education, Engineering, and Design and is aligned with the goals of the International Technology Education Association (ITEA) and the Partnership for 21st Century Skills framework.

National, International, and State Advocacy

The Partnership for 21st Century Skills, ISTE, and the American Association of School Libraries (AASL) provide leadership and service to improve teaching and learning by advancing the effective use of technology in education. The ITEA promotes technological literacy by supporting the teaching of technology. The Consortium for School Networking (CoSN) is an organization for K-12 technology leaders who use technology strategically to improve learning.

At the state level, the New Jersey Technology Education Association (NJTEA) fosters the development of technological literacy through Technology Education Programs. The New Jersey Association for Educational Technology (NJAET)and the New Jersey Educational Computing Cooperative (NJECC), Inc., promote and support the integration of technology in education as it applies to student learning, professional development, and instructional planning.

Resources

American Association of School Librarians. (2007). *Standards for the 21st century learner*. Online: http://www.aasl.org

International Society for Technology in Education. (2002). *National educational technology standards for administrators*. Online: http://www.iste.org/Content/NavigationMenu/NETS/ForAdministrators/2009Standards/NETS_for_Administrators_2009.htm

International Society for Technology in Education. (2007). *National educational technology standards for students* (2nd Ed.). Online:

http://www.iste.org/Content/NavigationMenu/NETS/ForStudents/2007Standards/NETS_for_Students_2007.htm

International Society for Technology in Education. (2008). *National educational technology standards for teachers* (2nd Ed.). Online: http://www.iste.org/Content/NavigationMenu/NETS/ForTeachers/2008Standards/NETS_for_Teachers_2008.htm

International Technology Education Association. (2003). *Advancing excellence in technological literacy: Student assessment, professional development, and program standards*. Online: http://www.iteaconnect.org/TAA/PDFs/AETL.pdf

International Technology Education Association. (2007). *Standards for technological literacy.* Online: http://www.iteaconnect.org/TAA/PDFs/xstnd.pdf

Partnership for 21st Century Skills. (2005). *Framework for 21st century learning.* Online: http://www.21stcenturyskills.org

Appendix D

Board Approval

Board Approval

(To be approved at the Board of Education Meeting,

April 16, 2013)

Appendix E

Superintendent Approval

Superintendent Approval

I hereby approve the Township of Union Public School's
2013-2016 Technology Plan,
including the budgetary requirements.

26 APRIL 13
Date

Dr. Patrick Martin, Superintendent

Appendix F

Local Technology Plan Checklist

Three-Year Local School District/ Charter School Technology Plan

NJ Department of Education
District/Nonpublic School/ Charter School
Three-Year Educational Technology Plan Checklist

To comply with the E-Rate program, complete the components associated with the unshaded boxes in the REQ'D BY E-RATE column. Completion of other components are recommended but not required.
Submission procedures found here:
Three-Year Educational Technology Plan Checklist Submission Procedure: 2013-2016

DIRECTIONS: Place a check ☑ in the unshaded **COMPLETED** column when the **TASK** has been completed.

	Completed	
TASK	**Req'd by E-Rate**	**Not req'd E-Rate**
DATE: Provide your educational technology plan's creation date (the date when the technology plan first contained all of the required elements in sufficient detail to support the products and services requested on the Form 470). (http://www.usac.org/sl/applicants/step01/default.aspx) **Tech Plan creation date:** **March 25, 2013**	☑	

	Indicate in the unshaded spaces the page number where the corresponding information is found	
Inventory Sample Table	**Req'd by E-Rate**	**Not req'd by E-Rate**
TECHNOLOGY INVENTORY: 1. Describe the technology inventory needed to improve student academic achievement in the 2013-2014 school year that informs the basis for the Form 470. Include in the description the internal connections and basic maintenance *for 12 months of the e-rate funded year*, such as the following areas:	7-12	
a) Technology equipment including assistive technologies	9-10	
b) Networking capacity	7	
c) Filtering method	8	
d) Software used for curricular support and filtering	8	
e) Technology maintenance and support	9	
f) Telecommunications equipment and services	8	
g) Other services	9	
NOTE: If this plan is intended to be used for three years of E-Rate funding, provide anticipated inventory information for all three years. See Inventory Sample Table. Definitions of items eligible		

for e-rate discounts: http://www.usac.org/sl/applicants/beforeyoubegin/eligible-services/default.aspx		
NEEDS ASSESSMENT: 2. Describe the needs assessment process that was used to identify the necessary telecommunication services, hardware, software, and other services to improve education.	14-16	
THREE-YEAR GOALS: 3. List clear goals for 2013-2016 that address district needs. There must be strong connections between the proposed physical infrastructure (bandwidth, cabling, electrical systems, networks) and goals. Include goals for using telecommunications and technology that support 21st century learning communities. E-Rate requirements: www.ecfr.gov	19-20	
THREE-YEAR IMPLEMENTATION AND STRATEGIES TABLE: Implementation Activity Sample Table 4. Describe the realistic implementation strategies to improve education. Include in the description the timeline, person responsible and documentation (or evidence) that will prove the activity occurred. Address only 'a' and 'b' below to meet e-rate requirements. Address all areas below to continue planning for a technology-rich learning environment. a. telecommunications, b. information technology, c. educational technology (including assistive technologies), and d. student technology readiness in preparation for online testing in 2014-2015.	21-24 23-24 22-23	21-22 21-24
PROFESSIONAL DEVELOPMENT STRATEGIES: Professional Development Sample Table 5. Professional development strategies should ensure that staff (teachers, school library media personnel and administrators) knows how to effectively use the technologies described in this plan to improve education, and will continue to support identified needs through 2016. *Address only 'a' below to meet e-rate requirements. Address all areas below to continue planning for a technology-rich learning environment.* Describe the planned professional development strategies by addressing each of the following questions: a) How will ongoing, sustained professional development be provided to all educators, (including administrators) that increases effective use of technology in all learning environments, models 21st century skills, and demonstrate learning experiences through	25-29	

global outreach and collaboration in the classroom or library media center? b) What professional development opportunities, resources and support (online or in person) exist for technical staff? c) How will professional development be provided to educators on the application of assistive technologies to support educating all students?		29 29
EVALUATION PLAN: Evaluation Plan Sample Table 6. Describe the evaluation process that enables the progress and effectiveness of goals to be monitored.	30-31	
7. Describe the process to make mid-course corrections in response to new developments and opportunities as they arise.	31	
FUNDING PLAN (July 2013 – June 2014): Funding Plan Sample Table 8. Provide the anticipated costs for **2013-2014** by source of funds (federal, state, local and other) and include expenses such as hardware/software, digital curricula including NIMAS compliance, upgrades and other services including print media that will be needed to achieve the goals of this plan. Allow specific provisions for interoperability among components of such technologies to successfully achieve the goals of this plan.		25-26

NJ Department of Education District/Nonpublic School/ Charter School Three-Year Educational Technology Plan Checklist
Review Procedures for District/Nonpublic School/ Charter School Educational Technology Plan

Educational Technology Plan Review and Approval:

The County Office of Education will set the timeline for review, submission and approval of district and Charter School educational technology plans. The County Office of Education will complete an online form by June 15th indicating the districts and Charter Schools with approved educational technology plans. Nonpublic School Educational Technology Plans may be reviewed and letters issued by the Certified Technology Plan approvers found on the Universal Service Administrative Company web site: http://www.sl.universalservice.org/reference/tech/default.asp.

Notification of Approval:

The NJDOE's Office of Educational Technology will send a notification of approval to the Chief School Officers of the approved districts and Charter Schools. Nonpublic School Educational Technology Plan approvals are not listed on the NJDOE website. Therefore, their approval letters do not have to be submitted to the NJDOE.

Posting your plan:

The NJDOE's Office of Educational Technology suggests that school districts, nonpublic schools and Charter Schools post the approved educational technology plan on their web site.

For Assistance:

To answer questions or concerns, contact the district or Charter School's County Office of Education (contact information found at http://www.state.nj.us/education/counties) or e-mail the NJDOE's Office of Educational Technology at edtech@doe.state.nj.us .