Technology Plan
2013 – 2016

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Mission Statement
The mission of the Orange-Ulster BOCES is to serve our component districts and community in the development of continuous learners who will be successful in meeting the challenges of living in our society today and in the future. We will accomplish this mission in a cost-effective manner with a dedicated, skilled, and caring staff providing quality educational services in a safe, nurturing and accessible environment.

Vision Statement
The OUBOCES Technology Plan provides an analysis of technological and informational needs for the instructional and managerial programs of the Orange-Ulster BOCES. Utilizing current and future technologies, this plan reflects a responsible approach to planning, coordinating, implementing and evaluating a technological plan for continued growth throughout the Orange-Ulster BOCES.

Description
The main campus of Orange-Ulster BOCES is situated on Gibson Road, in Goshen, New York. The Goshen complex consists of four buildings housing the Career and Technical Education Center (CTEC), Special Education Center, Administrative Offices and the Carl P. Onken Conference Center. In 2013 Orange-Ulster BOCES expanded its technology services and some academic programs to the Orange-Ulster BOCES Regional Education Center at Arden Hill. This centrally located campus now houses the Technical Services Department as well as Instructional Services, the School Library System and Records Management. In 2005 BOCES refurbished and opened the Chester Liberty Elementary School in the former Chester Junior/Senior High School at 3 Maple Avenue in Chester. BOCES also has adult education locations in Goshen, Middletown, Newburgh and Port Jervis.

BOCES’ Adult Education programs provide vocational/occupational, literacy and business & industry training to the adult population in the Mid-Hudson region. Comprehensive occupational and technical programs are geared to adults who want to upgrade skills, acquire new entry-level skills for a career change or enhance their personal capabilities. Literacy classes are offered day and night in locations throughout Orange County and include High School Equivalency (GED) and English as a Second Language. These programs are flexible and can be accommodated to fit into a demanding schedule. Workplace learning opportunities include a wide variety of entry-level and advanced courses for careers in automotive, building construction/trade, business, culinary, green applications, health professionals, IT, security, transportation and personal enrichment.

The Adult Education division also offers unique opportunities to youth who have stopped attending school before earning their diplomas. These programs include Second Chances and Incarcerated Youth. Grant-funded programs provide additional opportunities for services.
The BOCES Career and Technical Education division is comprised of Career and Technical Education programs (12 Career Academies including Culinary Arts, Transportation, Engineering and Health Careers) at the Center located on the main campus on Gibson Road in Goshen. Through a hands-on academic component in each vocational classroom, CTEC students are able to integrate academics into their vocational curriculum to meet their high school graduation requirements. Many of the career academies have been nationally accredited and feature the latest in technology as well as instructors with the latest trade experience.

New Vision and Health Careers classes are held at the Orange-Ulster BOCES Regional Education Center at Arden Hill. New Vision programs are designed for high-achieving high school students in the areas of medicine, education, engineering and law & government. New Vision students are eligible to earn college transcript credits as part of their programs.

The Hudson Valley Career Academy is located at the Orange-Ulster BOCES Regional Education Center at Arden Hill. The Academy offers a GED Program as well as an Alternative High School program called Graduation Options (GO). Students can earn their Regents diploma in a structured, smaller-class environment. Adult Practical Nurse programs are offered in state-of-the-art classrooms and labs at the Orange-Ulster BOCES Regional Education Center at Arden Hill.

The Emanuel Axelrod Education Center on the BOCES main campus is comprised of five special education programs including the John A. Flannery High School, the John A. Flannery Middle School, the Raymond C. Cramer Elementary and Secondary Schools and the STRIVE program for autistic students. These “schools” are housed in a facility that boasts a therapeutic pool, large cafeteria/auditorium, 2 gymnasiums and is surrounded by several playgrounds and expansive athletic fields. Additionally, programs are located in two other Orange-Ulster BOCES campuses. First, The Chester Liberty Elementary School is a program designed for K – 5 students and is located in the former Chester Junior/Senior High School at 3 Maple Avenue in Chester. Second, The Orange-Ulster BOCES Regional Education Center at Arden Hill, which will house various academic programs including the Marguerite A. Flood High School, the New Vision Program, and the GO Program. Satellite programs in local schools also enhance the BOCES’ special education offerings and are located in schools in the Chester, Cornwall, Goshen, Greenwood Lake, Minisink Valley, Pine Bush, Valley Central and Warwick Valley School Districts.

BOCES’ Division for Instructional Support Services is located Orange-Ulster BOCES Regional Education Center at Arden Hill and houses Technical Services, Instructional Technology, Mandarin Chinese Language Program, Professional Development Services, the Media Library, the School Library System, Records Management, and state-of-the-art computer labs and technology classrooms for students and staff development. The Athletic Coordination service is located at the Goshen Middle School. The Operations and Maintenance office is located on the Goshen Campus.
Technology Plan Goals (2013–2016)

We believe it is critical to use technology to impact teaching and learning and have established the following goals for the 2013–2016 Technology Plan. Our goals are consistent with, and fully support the NYS Common Core Standards. They are also based on the standards set forth by the International Society for Technology in Education (ISTE) and support ISTE’s mission: ISTE advances excellence in learning and teaching through innovative and effective uses of technology.

1. Resource Management: Establish guidelines for the purchase and use of hardware and software that best meet the needs of the programs and services. Technology Committee to be utilized to guide recommendations for hardware/software/subscriptions purchases.

2. Digital Use: Design a plan for professional development that best meets the needs of the staff and faculty in the use of technology that is integrated within the Division and the Professional Development Plan whereby learners, teachers, and administrators become proficient in the use of technology for learning.

3. Protocols and Infrastructure: Establish protocols and infrastructure for technologically based operations and communication that are compatible within the agency, and with those of the component schools and other partners.

4. Accountability: Monitor and periodically assess the implementation of the technology plan.

5. Leadership: The divisions of the Orange-Ulster BOCES are united in realizing the mission and vision.
I. Curriculum

A. Curriculum Integration
Goals and strategies, aligned with challenging state and national standards, for using telecommunications and technology to improve teaching and learning.

In support of Orange-Ulster BOCES’ commitment to its mission to develop continuous learners with the requisite knowledge and skill-set necessary to meet the challenges they face now and will meet in the future, the improvement of teaching and learning and the resultant improvement of instructional outcomes remain among the BOCES’ highest priorities.

Goals:

- Maximize student engagement in the instructional setting through the integration of educational technologies.
- Promote and strengthen students’ use of technology in the learning process.
- Expose students to various on-line learning experiences.
- Identify developing technology and web-based resources that enhance the flow of information and opportunities for the exchange of ideas.
- Prepare students to meet the demands of a 21st century labor force.

Strategies:
Strategies describe how technology will be used to improve the academic achievement, including technology literacy of all students, by OUBOCES divisions.

Special Education:
Strategies

- Digital Citizenship curriculum, aligned with the Dignity for All Students Act (DASA), will be implemented through all programs.
- Use of technology and promotion of 21st century learning goals will be assessed by administration as part of the adopted rubric for teacher evaluations.
- Integration and training for the Classlink Student Management System will be developed and implemented.

Description
As an Education Facility, it is important to recognize the need to develop 21st century skills in all our students while meeting their social and academic goals. To do this:

- Staff self-assessment data of technology integration practices will be collected and used to plan staff development based on inventory and best practices research in technology integration.
- Instructional Technology teachers, in conjunction with the Special Education Technology Committee and program administrators, will meet to discuss emerging trends and their applicability to lesson planning in the special education programs.
- Technology walkthroughs will be completed by Instructional Technology teachers to assess current technology. Collected data will be used to assist administration in planning purchases and developing staff development.

CTEC:
Strategies
- Utilize a student management system to track student attendance.
- The student management system allows collaboration among teachers that share students.
- The student management system allows communication with parents.
- The student management system allows access to real-time grades.
- The instructors have access to all the technology resources in the teacher resource center.
- Students will interact with one another collaboratively through an online system under the schools supervision.
- Staff will provide enrichment through online systems; alternatives will be built into the curriculum for students without access to the technology at home.

Description
As a Career and Technical Education Center it is essential that our students be on the cutting edge with the latest technology in their chosen field. To ensure that faculty and students have access and support for technology, CTEC has taken the following measures:
- Professional Development will be provided in the use of equipment and software available to the instructors and their students.
- The Model Schools Specialist is the liaison between the latest technology trends in education and the classroom instructor.
- The technology committee ensures that equipment remains current and reviews technology needs on a bi-weekly basis. All technology needs, including servers, networks, classroom computers, printers, scanners and software are addressed, reviewed and monitored to ensure that students and programs have the cutting edge technology resources as fiscally possible.
- Develop user-friendly instruction manuals for software and equipment post them on the teachers’ shared drive.
Adult Education: 
Strategies

- Ensure that students and teachers have access to computers/tablets/mobile learning devices in classroom learning environments.
- Align student technology skills with National Educational Technology Standards and the NYS Common Core Standards.
- Provide computer instruction that will assist students in acquiring technology skills.
- Integrate computer instruction to enhance curricula.
- Include project-based learning and technology to enhance and engage students for academic success and to promote college and career readiness.
- Teach extracurricular courses/programs in software applications when applicable.
- Identify basic student technology competencies and provide necessary needs assessment for instructional technology strategies and goals.
- Participate on a department-wide committee to review student competencies annually.

Description

- Implement and maintain program curriculum that is aligned with the NYS Learning Standards and Core Curriculum within an electronic database for secure access and continuous refinements based on student assessment needs and results.
- Provide focused and targeted professional development necessary to align, deliver and enhance technology integration in the classroom.
- Integrate software, hardware and adaptive technologies aligned with Adult Education curricula.
- Provide targeted intervention based on Literacy Test Assessments.

e-Learning and Model Schools: 
Strategies

- Connect students in school districts throughout Orange County to secondary education content providers like Virtual High School and NovaNET/GradPoint
- Assist other OUBOCES divisions and component school districts to utilize videoconferencing equipment to connect to electronic field trips, industry experts, and professional development opportunities.
- Develop online course environments through a course management system (Moodle), web conferencing (Adobe Connect), and social learning platforms (Edmodo).
- Facilitate instruction for Mandarin Chinese for students in grades 6 – 12 through videoconferencing and internet-based supports.

Description

- Develop diverse distance learning media to support communication and instruction 24 hours a day, seven days a week.
School Library Services and Media Library:

Strategies

- Provide a high level commitment to regional library media program excellence by offering professional staff development opportunities and trainings to certified library-media specialists, library staff members and teacher partners.
- Model “Best Practices” both within the region and beyond. Plan training for all members of the SLS in essential areas of curriculum leadership as Information Literacy, Inquiry Based Learning, Understanding Multiple Literacies and 21st Century Digital Citizenship.
- Provide library automation including planning and implementation and all the support services necessary to permit access for students, teachers and staff to materials held in online catalogs.
- Maintain and update a Union Catalog accessible through on the Orange-Ulster BOCES Website.
- Investigate and implement technology upgrades to support all formats on an as-needed basis for programs offered through Library Services.
- Investigate, explore, evaluate and purchase media to meet curricular needs.
- Provide a searchable database to facilitate the booking and use of media for our BOCES Programs, district clients and partners in education.
- Provide media in the formats requested by our clients and support those formats with technology and professional development.
- Collaborate with BOCES Technical Services to plan and implement technology upgrades to support the delivery of media in its many formats to our BOCES programs and the clients in our schools.

Description

The OUBOCES School Library Services and Media Library is committed to provide state-of-the-art instructional resources along with the best possible digital media to enhance student learning and growth across all content areas in support of curriculum design.

Current databases include:

- EBSCO
  - Primary Search
  - Student Resource Center
  - Kids Search
  - Funk & Wagnalls New World Encyclopedia
  - EBSCOhost Espanol
  - Professional Development Collection
  - ERIC

- Gale/Cengage Learning
  - Academic OneFile 1980-Present
  - Business & Company ASAP
- General Science Collection
- Expanded Academic ASAP 1980-Present
- InfoTrac Newsstand
- The Twayne's Author Series
- Environmental Studies and Policy Collection
- Custom Newspapers
- National Newspaper Index
- Gale Virtual Reference Library
- Health Reference Center Academic
- New York State Newspapers
- Pop Culture Collection
- U.S. History Collection

- Grolier Online Encyclopedia (includes six modules)
  - Amazing Animals of the World
  - American the Beautiful
  - Encyclopedia Americana
  - Grolier Multimedia Encyclopedia
  - Lands and Peoples
  - The New Book of Popular Science
  - La Nueva Enciclopedia Cumbre

- Proquest
  - Proquest Central Database
  - Professional Education Collection

- Teaching Books. Net

**Athletic Coordinator’s Office:**

**Strategies**

- Utilize Internet-based software for member school districts giving them access to:
  - Scheduling information, both games and officials
  - Site directions
  - Rating of officials
  - Ability to print and distribute schedules and calendars of events
  - Ability to access information from any location in the world

- Website for data and administrative issues for athletic directors within the association

- Staff development for internal staff and subscribers

- Website also provides information for parents, news media, community, and college scouting representatives
The Athletic Coordinator's Office seeks to provide the best possible service to the school districts of the Orange County Interscholastic Athletic Association (OCIAA) and Section IX Athletics through:

- Scheduling of athletic contests
- Assignment of officials
- Coaching certification programs
- In-service for athletic directors and support staff
- Payment of officials
- Maintaining web sites for the Orange County Interscholastic Athletic Association and Section IX Athletics.
- Web based access to schedules and other information

Health & Safety (Risk Management):

**Strategies**

- Utilize the Internet to provide Material Safety Data Sheets and other critical information
- Capacity to download technical measurements (i.e. CO2, relative humidity and temperature) from testing equipment to computer to generate reports
- Laptop computers for field use to:
  - Retrieve chemical Safety Data Sheets and governmental regulations in a timely fashion
  - View and print building floor plans and hazard locations
  - Write incident reports with recommendations to districts
  - Manage Emergency Operations in the field and real time communication with research and emergency agencies

**Description**

The Risk Management program seeks to enhance the delivery of health and safety information to component school districts by:

- Automating personnel scheduling and compliance deadlines
- Distributing an electronic newsletter
- Maintaining Internet connectivity with component districts and the OUBOCES main campus
- Facilitating mandated training for component districts via webcast technology

**B. Student Achievement**

Strategies that are based on research and that integrate technology into curricula and instruction for purposes of improving student academic achievement and a timeline for that integration.

**Special Education:**

- Available technologies are integrated with classroom instruction to promote 21st century skills and prepare students for future educational challenges and employment.
- Professional development aligned with curriculum content to promote the use of available technologies.
- Increased opportunities for Instructional Technology teachers and classroom teachers to develop collaborative lessons
CTEC:
- All classroom computer labs are equipped with a classroom monitoring system, Synchroneyes, enabling the instructor to deliver instruction to students as a group and/or individually.
- Mobile devices will be available for classroom use through the CTE Teacher Resource Center.
- Using the classroom monitoring system, instructors monitor student progress on assignments and are able to provide one-on-one instruction when necessary.
- Interactive whiteboards are installed in each academy for instructor and student use in delivering the curricula.
- Document imaging cameras are available for teachers to sign out through the CTE Teacher Resource Center.
- Every program utilizes the industry standard software and equipment required for success in that field. Some examples are:
  - Transportation Academy - Virtual Auto Lab – provides hands-on simulation of automotive technology.
  - Engineering Academy – live prototypes are created using the AutoCAD software with the 3-dimensional printer and milling machines.
  - Visual Arts Academy – the students use Adobe Creative Suite 4, along with state-of-the-art printers, scanners, cameras, video equipment. This enables students to complete projects in video editing, visual design and communication, animations, web design, etc. Using this technology, the students are able to produce professional quality work.
  - Transitional Academy – the special needs students utilize desktop publishing software to enable them to create menus and cookbooks.
  - Environmental Academy – Backhoe simulator.
  - Industry Standard Assessments- many are administered online.

Adult Education:
- Explore software related to GED and Adult Literacy Education for use in the classroom.

C. Technology Delivery
Strategies for the delivery of specialized or rigorous courses and curricula through the use of technology.

The three primary instructional divisions of the OUBOCES utilize many strategies for the delivery of specialist courses through the use of diverse technologies.
Special Education:
- Utilize web-based learning communities.
- Professional Development opportunities aligned with program needs and curriculum content to promote the use of technology within lessons.
- 3-Tiered Technology Integration model:
  1. 1-on-1 training during scheduled free period and/or before or after school hours.
  3. Follow-up session to assess lessons and discuss ideas, issues, developments, and concerns.

CTEC:
- All programs require students to complete assignments using Internet resources. For example, every program requires students to research current information in their chosen field for critical analysis.
- Students have access to on-line tutorials and complete lessons on an individualized basis.
- Students complete on-line assessments in their chosen field.
- Students complete on-line surveys.
- Using interactive whiteboards, students participate in interactive lessons. For example, Health Career students use software to complete virtual medical procedures and testing.
- Instructors deliver curricula on-line using Moodle. As part of their program curricula, students are able to communicate with each other and the instructor outside the traditional school setting.
- Instructors deliver instruction on how to create e-portfolios in academies.
- Academies use specific software for each career path:
  - Engineering – AutoCAD and Cisco
  - Film Production – Microsoft Virtual Studios
  - Transportation – All Data and CC Pathways
  - Cosmetology – Online textbooks

Adult Education:
- Implement virtual classrooms, on-line learning environments and distance learning protocols to supplement and enhance learning for both literacy and continuing education classes.

e-Learning & Model Schools:
- Provide a rigorous curriculum for Mandarin Chinese for students in grades 6 – 12 by connecting the instructors and students via videoconferencing.
D. Parental Communications & Community Relations

Strategies to promote parental involvement and to increase communication with parents and community, including a description of how parents and community will be informed of the technology to be used with students.

Each division of the OUBOCES utilizes the webpage as a primary source of communication with the community. The webpage is updated weekly with current events and news on what is happening in the agency. In addition, the divisions utilize multi-faceted strategies to inform parents on the use of technology by the students.

**Special Education:**
- Enhanced flexibility for program website design
- Increased instructional staff website development
- Parental component of digital citizenship materials and training
- Parental components to web-based learning communities and social networking sites.
- Continued support of OUBOCES News Notifier for emergencies and bulletins

**CTEC:**
- The Career and Technical Education Center utilizes a customized student management system:
  - It monitors student absences and notifies staff as well as parents through emails and letters. This partnership ensures students’ compliance with the OUBOCES attendance policy.
  - The student management system allows for a collaboration of Career and Technical teachers and Academic teachers to ensure student success in their program. This is done by constant monitoring of student grades by the students’ instructors. The student management system allows for real-time grade reports to be printed and reviewed with students, faculty, counselors and parents. In this way, everyone involved in the educational process is onboard with the status of the students’ progress.
  - The student management system allows for quick identification of students’ success in areas of attendance and grades. Students who are excelling are recognized on a quarterly basis for their achievements.
- The Orange-Ulster BOCES website has a section specifically for success in Career and Technical Education areas. It also promotes community service projects that are completed by the students with pictures, PowerPoint presentations, etc.
- Recognize successful alumni and current classroom learning on our website and Facebook page.
- CTEC provides parents with electronic and printed versions of handbooks, guidelines and resources.
- Exploring a Parent Portal option on our website page.
The Faculty regularly communicates with parents via email.

**Adult Education:**
- Virtual parent-teacher conferences will be coordinated for the youth in the Orange County Correctional Facility.

**E. Collaboration**
Strategies for developing the program, where applicable, with adult literacy providers.

The Career and Technical Education (CTEC) Division provides access to resources to support Adult Education workforce development offerings of Career and Technical Education classes to the local community.

The Adult Education Division works closely with colleagues in Special Education, CTEC, Division of Instructional Support Services and other programs to promote their extensive and effective literacy programs for adults, including GED, ABE and ESL.

**Internet Safety**
Age appropriate Internet Safety curriculum and strategies.

The Children’s Internet Protection Act (CIPA), enacted by Congress in 2000, along with the 2008 “Broadband Data Improvement Act”/“Protecting Children in the 21st Century Act”, and the Dignity For All Students Act (DASA) enacted in July of 2012 all have direct impact on schools and districts, specifically with Internet Policies and funding. The laws mean that elementary and secondary schools having computers with Internet access will not receive federal funding through the E-Rate Program for Internet service, Internet access or internal connections without certifying that their Internet safety policy includes Internet safety education. Specifically, the Internet safety education must include lessons on cyber-bullying awareness and response as well as teaching appropriate online behaviors for students on social networking sites and in chat rooms.

The more recent DASA took it a step further. This legislation amended State Education Law by creating a new Article 2 – Dignity for All Students. The Dignity Act also amended Section 801-a of New York State Education Law regarding instruction in civility, citizenship, and character education by expanding the concepts of tolerance, respect for others and dignity to include an awareness and sensitivity in the relations of people, including but not limited to, different races, weights, national origins, ethnic groups, religions, religious practices, mental or physical abilities, sexual orientations, gender identity, and sexes. The Dignity Act further amended Section 2801 of the Education Law by requiring Boards of Education to include language addressing The Dignity Act in their codes of conduct.

Additionally, under the Dignity Act, schools will be responsible for collecting and reporting data regarding material incidents of discrimination and harassment.
In response to the Federal and State initiatives, the Orange-Ulster BOCES has adopted a comprehensive curriculum to support Internet Safety for all students and staff. The curriculum makes use of social media, web-based learning communities, Federal and State approved sites, and professional development opportunities, all aligned with the current mandates.

II. PROFESSIONAL DEVELOPMENT

F. & G. Professional Development /Supporting Resources
Strategies for providing ongoing, sustained professional development for teachers, principals, administrators, and school library media personnel to ensure that staff know how to use the new technologies to improve education or library services. Strategies and supporting resources such as services, software, and other electronically delivered learning materials and print resources that will be acquired to ensure successful and effective uses of technology.

The Orange-Ulster BOCES Professional Development Plan currently in effect identifies the following goals for faculty and staff as related to all student-based programs:

I. Increase student engagement in classroom instruction.
II. Increase students’ use of technology to learn.
III. Provide students with a collaborative delivery of instruction by which students will identify and demonstrate teamwork strategies.
IV. Assure that students attend programs consistently so that all students perform increasingly well on NYS and other content specialty assessments.
V. To develop and implement an Annual Professional Performance Review (APPR) system in order to maximize student outcomes consistent with the new state regulations, the Regents Reform Agenda and the grant initiative, Race to the Top (RTTT).

Goal II focuses on the students’ use of technology to learn. The measures for success for this goal include:

- Students mastering current and available technologies;
- Students using technology as a resource for research or reports and also to manage and organize their work;
- Students using technology successfully during their routine classroom instruction.

The Professional Development Plan seeks to insure that activities are relevant, sustained, participatory, and collaborative and result in improved instructional practices that increase student learning. Furthermore, the Professional Development Plan attempts
to coordinate Professional Development activities across, as well as within, programs and divisions of Orange-Ulster BOCES.

Activities include, but are not limited to:

1. Whenever possible, plan Conference Days and In-service Trainings cooperatively across BOCES programs with teacher input to select and evaluate offerings.

2. Share Best Practices within and across programs in a systematic way by planning faculty meetings, program meetings, in-service opportunities, classroom visitations, facilitations (classroom follow-up), videoconferencing and virtual course management systems with the intent to share instructional practices within and across content areas.

3. Promote departmental communication across BOCES programs in specific curriculum areas such as Literacy, Mathematics, Science and Social Studies, including the need to address the issues of technology integration into instructional practice by using local resources of personnel and expertise including, but not limited to, BOCES teachers, administrators, technical services, technology integration specialists, library services, media specialists as well as Mid-Hudson Principals’ Center, Mid-Hudson Teacher Center, NYSUT training, SAANYS training, curriculum-specific professional organizations and online environments through e-Learning.

4. Seek additional Professional Development opportunities to:
   a. Maximize existing faculty meetings, program meetings, grade-level or team meetings for instructional purposes using available digital media.
   b. Incorporate use of videoconferencing and virtual course management system to maximize communication and minimize travel time.

Through the Office of Human Resources, the OUBOCES seeks to:

I. Maintain the Mentor-Intern Program such that all new certified staff are successful in meeting the diverse needs of their students; demonstrate continued professional growth of teacher-mentors as well as develop strong collaborative relationships between staff.

II. Provide new staff orientation such that all new staff members receive a general overview of the BOCES and other pertinent information to assist with an orderly transition into the employee workforce. Orientation emphasizes the important role staff members play toward the success of the students and the organization. Orientation encourages relationships and networking that will develop and become the foundation of support in the future.

III. Provide a “Professionals in Education Program” that disseminates information on topics pertinent to the field of education and the specific requirements for teaching students in Orange-Ulster BOCES’ diverse programs.

To achieve these goals, the following strategies will be employed:

- Certified staff will attend a week-long mandatory New Staff Orientation Program scheduled the week before school begins.
• In Year One, staff will attend monthly presentations that focus on timely educational topics and techniques.
• In Years Two and Three, staff will attend programming that builds on the introductory topics and moves from procedural information to instruction leadership.
• Whenever possible, internal experts will provide the training and offer ongoing support for these sessions across programs and divisions in the organization.

To increase student engagement in classroom instruction, each division has identified goals and strategies to ensure that all staff and administrators are made aware of how to use available technologies to improve student learning.

Special Education:
Staff development trainings will be offered on the following topics:
• Orange-Ulster BOCES specific applications such as Bmail, IEP Direct, Wincap, Classlink, etc.
• Equipment and application integration
• Digital Citizenship

Staff development trainings will be offered in the following modalities:
• Face to face sessions
• Online classes
• Combined face to face/online sessions

CTEC:
• Disseminate information to staff on technology workshops.
• Staff is surveyed at the beginning of each school year to determine their needs for professional development.
• Professional Development is provided on any new technology/software that is available.
• Staff is provided with a list of professional development workshops and can participate in those that interest them.
• The Model Schools Representative identifies webinars that would be beneficial to groups of staff.
• Explore the possibility of online instructional broadcasts.
• The educational technology specialist arranges for trainings on new software and other technology for the staff.

Adult Education:
• Provide continuous staff training during and after school and during set professional development training sessions throughout the academic calendar.
• Solicit recommendations to improve future offerings for professional development.
• Enhance instructional presence and access to resources through the use of Moodle.
• Provide trainings for all teachers and other Adult Education staff as needed.
In an effort to ensure that the professional development offerings set the groundwork for integration rather than a narrow focus on skill development, the agency provides access to internal and external expertise to assist the faculty and staff to develop knowledge and skills. Colleagues participate in collegial exchange sessions to enhance skills in an effort to maximize internal resources. In addition, faculty and staff are encouraged to engage in study groups, individually guided activities and action research. In addition, each division has implemented the following measures.

**Special Education:**
- Continue participation in Mentoring
- Encourage teacher sharing of best practices through peer observations and other opportunities through the APPR process
- Increased use of the Special Education Instructional Technology website and web-based media to disseminate websites, materials, training opportunities, and best practices within the organization.

**CTEC:**
- Continue participation in Mentoring
- Schedule peer observations
- Bi-weekly collaborative meetings
- Quarterly team building activities
- Summer curriculum development for new programs

**Adult Education:**
- Schedule peer observations
- Bi-weekly collaborative meetings
- Quarterly team building activities
- Identify and address the needs of special learner/special populations.

**Possible Areas for Shared Professional Development across Divisions:**
- Online systems such as Moodle
- Online course content such as NovaNET
- Technology tools such as Smart Boards, document cameras, flip cameras and iPods
- Technology skills to meet the ISTE NETS for students, teachers and administrators
III. INFRASTRUCTURE, HARDWARE, TECHNICAL SUPPORT AND SOFTWARE

H. Infrastructure Needs/Technical Specification, and Design

Strategies to identify the need for telecommunication services, hardware, software, and other services to improve education or library services, and strategies to determine interoperability among the components of the technologies to be acquired.

The goal of the Technical Services department is to provide technical leadership to the BOCES and its component school districts through the design, implementation, and maintenance of their current and future technology needs. These services are included as parts of the BOCES Instructional Technology, Model Schools, and Telecommunications Cooperative Service Agreements.

Orange-Ulster BOCES has written RFPs for telecommunications for BOCES and the districts for services and awarded contracts to Time Warner and Lightower. Both the Time Warner and Lightower contracts expire on 6/30/2016. These networks connect the BOCES to all of its satellites, component school districts, and all of the buildings within the districts. These redundant networks are 100mb and 1gb Ethernet over fiber-optics. The Network Operation Center (NOC) is in the Orange-Ulster BOCES Regional Education Center at Arden Hill.

Every classroom and office is connected to the Internet. The Goshen campus, Regional Education Center at Arden Hill, the Chester Liberty Elementary School, the Newburgh and Middletown Adult Education sites, and the Incarcerated Youth program at the Orange County Jail are also wireless. The Special Education Center maintains district-based programs in twelve different buildings and these programs are also supported by Technical Services.

As part of a grant through the U.S. Department of Education’s Race to the Top, New York State, Orange-Ulster BOCES included, along with 22 other states, is now part of the Partnership for Assessment of Readiness for College and Careers (PARCC). This consortium of 22 states, plus the U.S. Virgin Islands, is working together to develop a common set of K-12 assessments in English and math anchored in what it takes to be ready for college and careers. These new K-12 assessments will be web-based and administered on an approved device (computer, tablet, laptop, etc). PARCC has specific guidelines for both the network infrastructure, connection speeds, and hardware, all found on their site in detail. Orange-Ulster BOCES is committed to being prepared to administer these assessments. The PARCC assessments will be ready for states to administer during the 2014-15 school year.

The internal network includes Internet content filtering and management through Lightspeed Systems, intrusion detection/prevention, antivirus, redundant firewalls, packet shaping, spam filter, a Storage Area Network (SAN), and HVAC-controlled server room with UPSs, and a diesel generator. Indoor and outdoor surveillance cameras have been deployed in the Goshen campus, Adult Education, and the Chester Learning Center, and access
Control has been deployed at the Goshen campus using proximity readers. All servers employ Microsoft Active Directory (AD). AD is a directory service created by Microsoft specifically for Windows domain networks. Servers with the AD domain controller authenticate and authorize all users and computers in a Windows domain type network—assigning and enforcing security policies for all computers and installing or updating software. The desktop operating systems are primarily Windows XP with an upgrade to Windows 7 set to be completed by the end of 2013-2014. The application software used is dependent upon the needs of the individual programs, with the exception of the Campus License for Microsoft Office 2010, currently deployed on all applicable workstations and devices.

Additionally, Orange-Ulster BOCES will be 100% virtualized by the end of 2013-2014 year. Virtualization, utilizing VMware solutions, will lower IT expenses while boosting efficiency. VMware virtualization will allow for the consolidation of hardware, getting more productivity out of fewer servers. Moreover, it will simplify management, maintenance, and deployment of applications and services for us and component districts. Along with virtualization, Orange-Ulster BOCES will look into cloud-based options for the storage and consolidation of student data, specifically a Hybrid Cloud model. The Hybrid Cloud allows for both a local server running specific applications and a cloud service that hosts additional applications, files, or databases.

The Orange-Ulster BOCES maintains an extensive inventory of instructional and administrative technology. The list includes computers, the network infrastructure, and related equipment sufficient to operate and maintain the varied instructional and administrative programs and staff. The equipment ranges from computers and printers, to hardware and software specific to each program. Orange-Ulster BOCES takes pride in offering up-to-date equipment that provides our students with real-world experience. To that end, Orange-Ulster BOCES utilizes a 5 year recycle program of all hardware. The inventory contains hundreds of units and is upgraded as needed. A complete inventory is available from the OUBOCES Business Office as part of asset records.

I. Access to Technology
Strategies to increase access to technology for all students and teachers.

The services provided to our students, teachers, staff, and administrators via the network include Internet (750mb bandwidth), Library Automation, video conferencing, Voice over IP (VoIP), Disaster Recovery, eLearning, video streaming, database access, technical repair and maintenance ticketing system, conference room scheduling, e-doc (electronic document system), management services, and email. Administrative and managerial services are supported internally, through the Internet, and through the Mid-Hudson Regional Information Center (MHRIC).

The Orange-Ulster BOCES has contracted for fiber-optic connectivity since 2000. Most connections among the buildings are 100mb Ethernet. The connection from the Orange-Ulster BOCES Regional Education Center at Arden Hill to the Goshen campus is 1 GB to
support the remote backup of servers. All future contracts will have a 10 gigabit option for connectivity. Implementation will be dependent upon the bid price. Future RFPs may also evolve to a regional RFP for the four BOCES in the region and the MHRIC.

### IV. Funding and Budget

#### I. Budget & Timetable / Timeline

Timeline and budget covering the acquisition, implementation, interoperability provisions, maintenance, and professional development related to the use of technology to improve student academic achievement.

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<tbody>
<tr>
<td>1. 100 percent virtualization</td>
<td>Maintain Virtualization as needed.</td>
<td>Upgrade Virtualization as needed.</td>
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<tr>
<td>2. Technical training. Raise the skill level of</td>
<td>Technical training. Raise the skill level of</td>
<td>Technical training. Raise the skill level of</td>
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<td>existing technicians to meet the demands of the</td>
<td>existing technicians to meet the demands of</td>
<td>existing technicians to meet the demands of</td>
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<td>evolving complex network.</td>
<td>the evolving complex network.</td>
<td>the evolving complex network.</td>
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<tr>
<td>3. Microsoft Active Directory (AD) deployment</td>
<td>Continue testing and maintenance of AD.</td>
<td>Complete test and deploy the System Center</td>
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<tr>
<td>test.</td>
<td></td>
<td>Configuration Manager (SCCM).</td>
</tr>
<tr>
<td>4. Upgrade Microsoft operating system to Windows</td>
<td>Continue Windows 7 upgrades and test Windows</td>
<td>Deploy Windows 8.</td>
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<tr>
<td>7.</td>
<td>8.</td>
<td></td>
</tr>
<tr>
<td>7. Analyze wireless network for possible</td>
<td>Analyze wireless network for possible expansion.</td>
<td>Analyze wireless network for possible</td>
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<tr>
<td>expansion.</td>
<td></td>
<td>expansion.</td>
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<tr>
<td>8. Analyze Disaster Recovery (DR) storage for</td>
<td>Analyze DR storage for upgrade.</td>
<td>Analyze DR storage for upgrade.</td>
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<td>upgrade.</td>
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<tr>
<td>effectiveness and possible expansion.</td>
<td>effectiveness and possible expansion.</td>
<td>effectiveness and possible expansion.</td>
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<tr>
<td>10. Roll out Classmate Student Management</td>
<td>Analyze deployment of Classmate.</td>
<td>Complete deployment of Classmate.</td>
</tr>
<tr>
<td>Systems BOCES-wide.</td>
<td></td>
<td></td>
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<tr>
<td>11. Upgrade current LAS and</td>
<td>Maintain the LAS and</td>
<td>Maintain and upgrade LAS</td>
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deploy FOLLETT. analyze FOLLETT deployment. and FOLLETT as needed.

12. Explore cloud-based applications for individual programs. Explore cloud-based applications for Divisions. Explore cloud-based applications BOCES-wide.

25. Ongoing professional development for faculty, staff and students to support instructional technology. Ongoing professional development for faculty, staff and students to support instructional technology.


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<tbody>
<tr>
<td>Telecommunications, Hardware and Networking Costs, Licensing Agreements, Maintenance and Service Costs.</td>
<td>$502,500</td>
<td>$512,500</td>
<td>$497,500</td>
</tr>
<tr>
<td>Salaries and Benefits for Technology Services (Instructional and Support)</td>
<td>$912,505</td>
<td>$1,006,047</td>
<td>$1,056,350</td>
</tr>
<tr>
<td>Software, Supplies and Curriculum Support</td>
<td>$541,417</td>
<td>$568,488</td>
<td>$596,912</td>
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<tr>
<td>Professional Development Model Schools for BOCES Additional professional development</td>
<td>$341,066</td>
<td>$351,299</td>
<td>$361,837</td>
</tr>
<tr>
<td>Total Budget</td>
<td>$2,297,488</td>
<td>$2,438,334</td>
<td>$2,512,599</td>
</tr>
</tbody>
</table>

Source: Division Budgets, Cost Estimates and Projected Budget Increase of 2% annually.

K. Coordination of Resources
While the Orange-Ulster BOCES is seldom eligible for grant funds, the agency will continue to identify potential opportunities to leverage funding through local, state, and federal programs. OUBOCES does have access to a grant-writer to prepare funding applications as appropriate. Further, the OUBOCES has collaborated with BOCES in the 4-county region to apply for Title IID funds and other funding opportunities as they become available.

V. Monitoring and Evaluation

L. Evaluation
Strategies that the district will use to evaluate the extent to which activities are effective in integrating technology into curricula and instruction, increasing the ability of teachers to teach, and enabling students to reach challenging state and national academic standards.

Evaluation of any plan or project is crucial to its long-term success. During the course of this three-year technology plan, it will be imperative to follow an evaluation process. This process will monitor progress of specific goals and objectives, assess the effectiveness of action plan and timelines, and enable corrective action to be taken in response to technological advances and changes to the environment as well as unforeseen opportunities.

This technology plan will be formally reviewed every year and updated after each review as necessary. A comprehensive review and update will occur every three years. It has been suggested that a BOCES-wide Technology Committee continue on a quarterly basis to review the Plan and to share information on standardization, best practices and new developments.

The evaluation process will seek to examine outcome-based measurement for evaluation purposes. For example, the evaluation may seek to measure the amount of change in student achievement as a result of implementing a specific piece of technology, technological strategy, or system. It may also seek to measure a change in behaviors or skills. It will address, at a minimum, the following questions/items:

- The frequency of review and updates to the technology plan.
- The membership of the Technology Plan Committee.
- Determine if the technology plan was successful in meeting the goals of the organization. Possible tools include interviews or surveys with staff/stakeholders, classroom observations, and student performance and engagement in the learning process.
- What goals and objectives have been met? To what extent?
- Were there any unexpected outcomes or benefits to having the technology in place?
- What goals and objectives of the technology plan have not been met? Why?
- What is the plan for meeting unmet goals and objectives?
- Are there any goals and objectives that are no longer relevant? Should these be deleted?
- What developments in technology have emerged that will improve educational services and student learning?
- How will potentially useful technologies be identified? Shared across programs and divisions?

M. Monitoring – Acceptable Use Policies
Strategies are in place to develop and monitor district policies for faculty, staff and student use of the technologies including Acceptable Use Policy.
See Appendices for district policies on acceptable use for faculty, staff and students.

- Policies
- NETS for Administrators, Teachers and Students
- New York State Tech Plan