



TECHNOLOGY PLAN

Essex North Shore Agricultural & Technical School

2021-2024



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Executive Summary

The Essex North Shore Agricultural & Technical School District's Technology Plan represents the district's vision and recommendations, based on the current technology status, critical components, and desired outcomes for instructional technology to support data-driven teaching and learning. This plan is a living document that can be revised as needed based on district needs. It is flexible, yet specific enough to serve as a guide in decision-making and budgeting. A committee of stakeholders including leadership, teachers, students, and the community have been used to help develop this plan.

This plan has been developed to assist the district in allocating funds with a focus on the key elements necessary to promote teaching and learning. Although there has always been significant financial support to the Technology Department by the district, there will need to be funding and resources allocated to achieve the goals of this plan. The *National Education Technology Plan* states:

To remain globally competitive and develop engaged citizens, our schools should weave 21st century competencies and expertise throughout the learning experience. These include the development of critical thinking, complex problem solving, collaboration, and adding multimedia communication into the teaching of traditional academic subjects. In addition, learners should have the opportunity to develop a sense of agency in their learning and the belief that they are capable of succeeding in school. Beyond these essential core academic competencies, there is a growing body of research on the importance of non-cognitive competencies as they relate to academic success. Non-cognitive competencies include successful navigation through tasks such as forming relationships and solving everyday problems. They also include development of self-awareness, control of impulsivity, executive function, working cooperatively, and caring about oneself and others.

The National Education Technology Plan emphasizes five core components of the role of technology in education. This plan focuses on those five core components and is in alignment with our Strategic Plan. Those components are Learning, Teaching, Leadership, Assessment and Infrastructure. We propose adding 6th component, Communication. The following plan specifies how the district will support the integration of technology in all components with the ultimate goal of strengthening and supporting teaching and learning in order to make our school's mission of creating "a culture of academic and technical excellence" a reality.

The mission of Essex North Shore Agricultural & Technical School is to create a culture of academic and technical excellence, encourage continuous intellectual growth, and promote professionalism, determination, and citizenship for all students, as they develop into architects, artisans, and authors of the 21st-century community.

Superintendent's Goal

Dr. Heidi T. Riccio will work with the Leadership Team to evaluate and assess existing strategic initiatives that align to the strategic objectives with a focus on improving student learning through data analysis, assessment practices, integration across disciplines, and equitable and inclusive practice. Additional initiatives may be added based on this assessment.

This goal is supported by District Improvement Goal:

Dr. Heidi T. Riccio will work with the Leadership Team to develop comprehensive plans related to the district, including curriculum review, technology, effective PAC, alumni, professional development, preventative maintenance, capital planning, early college, along with equitable and inclusive practice.

Subcommittees

Teaching and Learning

Tammy Garron, Instructional Technology Specialist Erinn Gilmore, Assistive Technology Consultant Richard Chouinard, Mathematics Teacher Virginia DiSarcina, Embedded Academics Teacher

Professional Development & Leadership

Arlyssa LaPorte, *Biotechnology Teacher*Julia Deleskey, *Wellness Teacher*Kathleen Holman, *Director of Human Resources*

Data & Assessment

Kimberley Dickson, Data & Assessment Specialist Louis Polan, STEM & Wellness Facilitator and Science Teacher Timothy Johnson, Humanities Facilitator and English Teacher

Infrastructure, Equipment, and Systems

Shawn Coppinger, IT Systems Administrator
Kelly Radochia, IT Support Specialist
Chris Xerras, Electrical Teacher
Marie Znamierowski, Director of Business Operations

Communication

Bonnie Carr, Director of Workforce Development

Joe Giordano, Common Strands Instructor

John Mejia, Design & Media Communications Teacher

Martha Carrasco, Executive Assistant to the Superintendent-Director

Committee Process

We would like to recognize the members who played a role in the creation of this Technology Plan. These members represent teachers, administrators, families, students and community members. The district would like to thank each of these members for their dedication in helping to shape this plan for the future.

Critical Components



Learning

All learners will have engaging and empowering learning experiences in both formal and informal settings that prepare them to be active, creative, knowledgeable, and ethical participants in our globally connected society, guided by the International Society for Technology in Education (ISTE) Student Standards: Empowered Learner, Digital Citizen, Knowledge Constructor, Innovative Designer, Computational Thinker, Creative Communicator, and Global Collaborator.



Teaching

Educators will be supported by technology that connects them to people, data, content, resources, expertise, and learning experiences that can empower and inspire inclusive more effective teaching for all learners, guided by the ISTE Educator Standards: *Learner, Leader, Citizen, Collaborator, Designer, Facilitator*, and *Analyst*.



Professional Development & Leadership

Education leaders need personal experience with learning technologies, an understanding of how to deploy these resources effectively, and a community-wide vision for how technology can support improved learning. Leaders will model effective use of technology, guided by the ISTE Leadership Standards: *Equity and Citizenship Advocate, Visionary Planner, Empowering Leader, Systems Designer*, and *Connected Learner*.



Data & Assessment

We will utilize technology to assess and support student growth in the social, academic, and technical skills needed for success in the workplace and higher learning. Assessment Data from national, state and local assessments will be utilized to enhance instructional practices and make data-driven decisions at the district and school levels.



Infrastructure, Equipment, and Systems

All students and educators will have access to a robust and comprehensive infrastructure when and where they need it for learning. The ENSATS Capital Improvement Committee will continually evaluate and include infrastructure, equipment, and systems in their long-term budgeting.



Communication

Communications are the key to meaningingful relationships between students, families, and our learning community. Internal and external communications are both crucial for the success of the entire school community. Communications take many forms, such as through social media posts, the school's website, and regular school-to-home notifications via emails and phone calls.

Current State of Technology

State of Technology (February 2021)

Learning: Students often struggle with being empowered learners. For example, they often struggle with how to troubleshoot day-to-day technology issues related to their school devices, the Learning Management Systems (LMS), and other educational applications and could benefit from having more agency in solving these problems independently. Further, students often need more support in the area of using technology for creative and authentic problem solving and connecting them with the broader learning community.

Teaching: Challenges for teaching in the area of technology fall into two categories: use of technology as a tool to support instruction (LMS, learning apps, research resources, etc.) and use of technology in the pursuit of authentic, project-based learning opportunities that foster creative thinking and connect students with different content areas and learning communities. Technology offers us an effective way cultivate curiosity, creativity, communication skills, collaboration, and accessibility. Teacher are then able to use technology to plan collaboratively using multiple online resources and tools, create outstanding lessons/projects/units, and implement these with students through seamless technology integration.

Professional Development & Leadership: There are several educational platforms that are used by the district to manage classroom resources, materials, assignments, assessments, and communication. These platforms include Schoology, Aspen, Google Classroom, Frontline, Performance Matters, Zoom, SkillsPlus, SmartPass, and IXL. There are also many other educational applications being used by staff members; for example LabXchange, EdX, Edpuzzle, Quizlet, Kahoot, light board, Peardeck, and Jamboard. Students and their caregivers along with staff each have different levels of mastery using these platforms and applications. The district, through the Technology Department and professional development, offers training and coaching however this training can be at the introductory level and users that may need additional assistance or who may need advanced programming may not have their individual needs met.

Data & Assessment: State assessments have moved to an entirely online platform, and many licensure and national assessments are following suit. Delivery in higher education is almost entirely online. Students will be required to develop technical skills needed to navigate coursework and assessments at a higher level. Assessment Data from National, State and Local assessments is currently made available to inform educators in order to make data-driven decisions when planning and teaching. Data from these assessments is regularly reviewed and distributed to inform instruction for all students at the school level. The district has used Mastery Manager as a tool for rubric-based assessment delivery with data analysis. Data show that the use of this tool has decreased dramatically as the tool is outdated and challenging to implement; therefore, we intend to add Performance Matters for data collection and analytics for next year. The software SkillsPlus is currently used to track student's competency achievement in their CTE program. We currently support Naviance for student self-assessment through career discovery and the graduate planning process. This year we will also partnered with Panorama to design student and staff SEI and Equity surveys and/or assessments.

State of Technology

Infrastructure, Equipment, and Systems

Essex North Shore Agricultural & Technical School provides technology services and support for over 1600 students and over 250 staff. The district currently has a 1 Gbps Comcast fiber internet connection connected to the district's Meraki Firewall. Fifty-five network access switches, located across nineteen different intermediate distribution frames (IDF) are interconnected back to the network's core switch located in the main distribution frame (MDF) via 1 or 10 GB fiber-optic cabling. All classrooms and most learning spaces throughout the campus have Meraki high speed wireless access points installed. Security cameras are currently a combination of the school's original American Dynamics DVR-based system, installed in 2014, and newer Verkada security cameras. Access control is currently installed on thirty-five doors, the systems are currently a combination of the school's original C-Cure system, installed and 2014, and newer Verkada systems.

The district currently provides a combination of Macbooks, Windows Laptops, iPads, and Chromebooks for faculty and staff depending on their job function, needs, or industry standard in their CTE Program. For student 1:1 devices, we are transitioning from iPads to Chromebooks with each newly entering grade level. Currently the Class of 2021 and 2022 are using iPads and the Class of 2023 and 2024 are using Chromebooks. The school currently operates on a bring-your-own-device model, however, to ensure that every student has equal access to a 1:1 device, the school provides devices to students that need them for a \$50 technology fee. In addition to 1:1 devices, the school also has additional computers in many CTE Programs, depending on student learning needs in their CTE Program to be future-ready in their profession. The majority of classrooms are outfitted with Epson ultra-short-throw projectors that were installed the summer of 2014 with projector bulbs all replaced in the summer of 2019.

Communications

The school's social media presence is currently comprised of many accounts on different social media platforms. The school's primary social media accounts are active on Facebook, Instagram, and Twitter with the goal of posting three items per day. Social media posts on our primary accounts are a mix of school information, student spotlights, staff/departmental spotlights, and general posts containing inspirational quotes, celebrations of history, and current events. Other social media accounts are currently able to post without the content being screened or approved.

The current school's website originated in 2014. Since then, there have been little visual changes to the site, which is causing the website to feel dated. Since the 2014 update there has also been a significant amount of content added to the website which was not originally planned The addition of this content has made locating some content difficult to find due to the current navigation options.

School-to-home communications are currently limited to emails and phone calls through the use of Blackboard's Parentlink platform. These phone calls are currently only sent out in English. Emails are translated to other languages and sent to families who have requested them after the initial email is sent.





Learning Action Plan

Recommendation

All learners will have accessible engaging and empowering learning experiences in both formal and informal settings, both in Academics and Career Technical Education Programs. These learning experiences will prepare students to be active, creative, knowledgeable, and ethical participants in our globally connected society. Students will demonstrate the ISTE Learner Standards: Empowered Learner, Digital Citizen, Knowledge Constructor, Innovative Designer, Computational Thinker, Creative Communicator, and Global Collaborator. Students need access to the modern tools to support their learning including appropriate mobile technology connected to the internet and coursework and experiences that allow them these opportunities.

Action

- A. Establish a Freshman Technology Orientation class that includes:
 - a. How to access Google applications
 - b. How to access Schoology
 - c. How to access Aspen
 - d. How to access accessibility tools, services, and equipment
- B. Establish a Grade 9 Technology course that includes:
 - a. Culturally Compassionate Digital Citizenship
 - b. Research Skills
 - c. Learning Management Systems
 - d. Technology-based school applications and platforms including Gmail, Drive, Docs, Sheets, Slides, Sites, Calendar, Tasks, Notes, YouTube, Read&Write, Zoom, Kami, Spark Adobe, and Padlet
 - e. Accessibility tools and features
 - f. Research tools and skills related to course learner outcomes
- C. Establish and regularly send out video lessons on how to:
 - a. Troubleshoot common technology problems independently
 - b. Manage software and application updates
 - c. Accessibility spotlight tool videos, newsletters, and postings

- A. August 2021
- B. Ongoing beginning in August 2021
- C. Ongoing beginning in August 2021

Teaching Action Plan

Recommendation

Educators will be supported by technology that connects them to people, data, content, resources, expertise, and accessible learning experiences. This technology can empower and inspire them to provide inclusive and effective teaching for all learners, guided by the ISTE Educator Standards: Learner, Leader, Citizen, Collaborator, Designer, Facilitator, and Analyst. In order for this to happen teachers need professional learning opportunities. The learning policy institute states that effective professional development encompases most or all of the following elements: "1. content focused 2. incorporates active learning utilizing adult learning theory 3. supports collaboration, typically in job-embedded contexts 4. uses models and modeling of effective practice 5. provides coaching and expert support 6. offers opportunities for feedback and reflection 7. is of sustained duration."

Educators will utilize technology to develop students into the Essex North Shore Agricultural & Technical School Graduate Profile.

Action

- A. Throughout the year, distribute information to faculty and staff regarding all the Technology Integration Services that are available.
- B. Establish training for all faculty and staff that includes Schoology, Aspen, accessibility platforms, and other school-based applications.
- C. Establish training for all faculty that includes research tools and skills to support student-learner outcomes by department.
- D. Work collaboratively with the Professional Development subcommittee to identify faculty and staff training needs.
- E. Create a Schoology Group to share documents and tools among faculty and staff.

- A. Ongoing beginning in Spring 2021
- B. Ongoing beginning in Spring 2021
- C. Ongoing beginning in Spring 2021
- D. Ongoing beginning in Spring 2021
- E. Spring 2021



Professional Development & Leadership Action Plan

Recommendation

District and school leaders will provide support, coaching, and differentiation for all staff and students as it relates to technology integration, use, and platforms. This can be achieved through targeted professional development, online classes, coaching sessions, and opportunities to share best practices. Most importantly opportunities will be tiered to address the learning needs of beginners, intermediate, and advanced users.

Action

- A. The Technology Department in collaboration with the Professional Development Committee will create a system to assess the technology needs of staff, the platform usage of the various users, the degree of proficiency, and context of application.
- B. Plan and implement the introduction of new and existing platforms, promote the proficiency development of users, and identify technology coaches to assist all levels of learners.
- C. Utilize educators and students as technology coaches and mentors.
- D. Develop and implement a plan to assess the technology skills of incoming students to determine their proficiency using the Google platform, keyboarding, attachments, email, file use and organization.
- E. Transfer from the piloting of Schoology to full implementation of Schoology for all users. Provide differentiated instruction to all groups of users.

- A. Ongoing beginning in Spring 2021
- B. Ongoing beginning in Spring 2021
- C. Ongoing beginning in Spring 2021
- D. Ongoing Readily explore available technology platforms and applications
- E. Beginning in March 2021 through school year 2021-2022

Assessment Action Plan

Recommendation

All educators will utilize technology to assess and support student growth in the social, academic, and technical skills needed to be future-ready, either for success in the workplace or for their continued education. The district and school will adopt tools that will enhance Universal Design for Learning (UDL) and ensure Equity. Assessment data from national, state and local assessments will be utilized to enhance instructional practices and make data-driven decisions at the district and school levels.

Action

- A. Establish a District Data Team comprised of administrators, Content-Area Representatives, and CTE Instructors to inform teaching and learning.
- B. The District Data Team will develop and publish a district-approved list of technology assessment tools and platforms.
- C. Provide professional development opportunities to support use of district-approved technology assessment tools and platforms.
- D. Research and implement Performance Matters, a new data analytic and assessment platform that work in conjunction with Aspen and Schoology to replace Mastery Manager.
- E. Assess the software IXL, used in the Math Department, for future skills-development and formative assessment use.
- F. Assess the software SkillsPlus, used for CTE competency achievement tracking, for future use.
- G. Partner with Panorama to design a student and staff SEI and Equity assessment. We will evaluate the results of this assessment to inform academics and future programming. We will also determine if it will be beneficial to continue on with this assessment system after the expiration of the grant.

- A. Ongoing beginning in Spring 2021
- B. Ongoing beginning in Summer 2021
- C. Ongoing beginning in Spring 2021
- D. March 2021
- E. Spring 2021
- F. Fall 2021
- G. Winter 2021



Recommendation

All students and educators will have access to the technology infrastructure, equipment, and systems they need to become future-ready. In collaboration with all stakeholders, the Technology Department will regularly review the effectiveness and performance of all technology infrastructure, equipment, and systems. The Technology Department will create a regular maintenance schedule for all equipment to ensure smooth operation. In addition, the Technology Department will also establish a replacement schedule for all technology infrastructure and equipment keeping in mind that it is essential that the physical infrastructure be robust enough to handle not only technologies of today, but also scalable to ensure future needs can be met.

Action

- A. Through the Technology Committee, regularly review the effectiveness and performance of the school's technology infrastructure, equipment, and systems.
- B. Create a regular maintenance schedule for all equipment.
 - a. Staff and faculty equipment
 - b. CTE program equipment
 - c. Printers
 - d. Projectors
- C. Establish a replacement schedule for all technology infrastructure and equipment. This replacement scheduled will be reflected in the capital improvement plan/budget.
 - a. Staff and Faculty equipment
 - b. Server Infrastructure full replacement every 5 years (FY 2022)
 - c. Learning Space Audio-Visual full replacement every 5-6 years (FY 2023/FY 2024)
 - d. Wireless Access Points full replacement every five years (FY 2025)
 - e. Network Switches full replacement every five years (FY 2026)



Infrastructure, Equipment, & Systems Action Plan

- A. Ongoing
- B. Ongoing
 - a. Yearly June through August
 - b. Yearly February break, April break, and June through August
 - c. As needed Regular full maintenance of printer components every two years tracked by the asset management system
 - d. Bulb replacement as needed or every five years
- C. Ongoing
 - a. Every five years as tracked by the asset management system
 - b. Full replacement every five years (FY 2022)
 - c. Full replacement every five-to-six years (FY 2023/FY 2024)
 - d. Wireless Access Points full replacement every five years (FY 2025)
 - e. Network Switches full replacement every five years (FY 2026)

Communication

Recommendation

The school will regularly review the effectiveness of current social media strategies and platforms to ensure relevance and effectiveness. The school will establish social media guidelines for the posting of materials. An updated website will be created and regularly maintained to reflect relevance of current information. The new website will be user-friendly and have a modern design. School-to-home communications will be expanded to include support for multiple languages based on caregiver and community requests.

Action

- A. Create a new updated website that is user-friendly.
- B. Develop social media guidelines for the school.
- C. Enhance social media posts through the use of video.
- D. Transition to a formal intranet platform for internal staff resources and communications.
- E. Make all school-to-home communications available in multiple languages.
- F. Work with the administrative team to evaluate the need and explore options for a Communications Specialist position (full/part time) to coordinate the district's internal and external communication efforts and keep our presence in community workplaces, other academic institutions, and the wider global society.

- A. Ongoing, beginning in Spring 2021
- B. Ongoing, beginning in Spring 2021
- C. Ongoing, beginning in Spring 2021
- D. Ongoing, beginning in Spring 2021
- E. Ongoing, beginning in Summer 2021
- F. Ongoing

Considerations

Strategic Plan

The District Technology Plan fully supports the Essex North Shore Agricultural & Technical School 5-Year Strategic Plan as highlighted below.

Timeline:

2016-17 Plan Created

2017-18 Year 1 - Action Plan Developed

2018-19 Year 2 - Superintendent's Goals Aligned

2019-20 Year 3 - Implementation and revision through a Theory of Action

2020-21 Year 4 - Equity and Inclusionary practices and 20-21 State COVID Guidance

2021-22 Year 5

Theory of Action

If the leadership team re-envisions learning at Essex North Shore Agricultural & Technical School and provides professional learning opportunities for stakeholders, including teachers, staff, students, parents, community collaborators, to work in action teams to create deeper connections between career technical-agricultural education and academic learning, then our students will be active in leading their own learning and will be better prepared for life. We will see the results of our re-envisioning work in greater opportunities for student-led integration learning, continuous intellectual growth, and higher levels of professionalism, determination, and citizenship.

STRATEGIC PLAN VISION STATEMENT

Essex North Shore Agricultural & Technical School will provide students with a variety of life choices through career technical pathways. We will cultivate these choices through a community of learners that include dedicated staff, intrinsically-motivated students, and supportive caregivers to create a dynamic learning environment.

STRATEGIC OBJECTIVE 1

Pathways - Ensure that the educational experience provides opportunities for a meaningful career and academic pathways.

Strategic Initiatives

- Expand program opportunities and access for students.
- Using the graduate profile, ensure program quality and relevance through a regular program evaluation process.
- Through our CTAAC work, implementing project-based learning, integrating Career Technical Education and Academic Programs, including curriculum work, professional learning, and planning time.
- Establish a professional learning plan, including the sharing of best practices with a focus on integration learning, social-emotional learning, student learning teams.
- Design and implement a new schedule to ensure our students are future-ready

Strategic Plan

STRATEGIC OBJECTIVE 2

Culture - Promote a positive and inclusive school culture for all staff and students.

Strategic Initiatives

- Create a School Culture Steering Committee comprised of students, teachers, parents, and administrators to coordinate school culture planning, events, and school traditions.
- Ensure equitable access for all students to students' activities and/or programming that will increase their cultural proficiency.
- Continue to develop a variety of school-wide assemblies, including technical experts and motivational speakers.
- Develop a school branding and communication plan.
- Provide all students and staff have access to culturally inclusive and responsive curriculum and high-quality instructional practice.

STRATEGIC OBJECTIVE 3

Community - Build and foster community relationships.

Strategic Initiatives

- Define New Collar Workforce and Future-Ready as they relate to the admissions process and for all community members.
- Enhance community outreach and communication to promote community partnerships with Essex North Shore Agricultural & Technical School.
- Build a sense of community.
- Expand adult education through certificate and licensure programs, including partnerships with community organizations.

FY 2022 Submitted Budget (March 2021)

DISTRICTWIDE INFORMATION MGT. AND TECH.	
Account Description	<u>Requests</u>
Technology Department SALARIES	373,156.80
CONTRACTED SERVICES	170,020.00
HARDWARE	151,000.00
SOFTWARE	205,278.42
TRAVEL	7,500.00
	906,955.22
BUILDING TECHNOLOGY (PRINCIPAL'S OFFICE):	
COMPUTER HARDWARE	10,000.00
COMPUTER SOFTWARE	30,000.00
	40,000.00
INSTRUCTIONAL TECHNOLOGY:	
HARDWARE	179,252.00
LIBRARY SOFTWARE	2,000.00
INSTRUCTIONAL SOFTWARE	171,849.00
	353,101.00
Department Total	1,300,056.22

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