



Technology Plan 2019-2022

SAU15

Auburn School District

School Administrative Unit 15

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TECHNOLOGY COMMITTEE MEMBERS

Member

Representation

Aaron Brayall	Community member / Parent
Samantha Belcourt	School Board
Lori Collins	Principal
Lindsay Murray	Assistant Principal
Robert Strobel	Technology Director
Jason Tyburski	School Board Member
Cheryl Kaake	Kindergarten Teacher / Professional Development Coordinator
Matthew Krohn	Community member / Parent
Carly Cohen	Grade 5 Middle School Teacher
Joan Marcotte	Grade 6 Middle School Teacher
Wendy Smith	Grade 7 Middle School Teacher
Andrea O'Neil	Digital Learning Specialist

Contents

TECHNOLOGY COMMITTEE MEMBERS	2
AUBURN SCHOOL DISTRICT MISSION AND CORE VALUES.....	4
MISSION.....	4
CORE VALUES	4
VISION	5
CORE BELIEFS FOR EDUCATIONAL TECHNOLOGY.....	5
INTRODUCTION.....	6
AUBURN SCHOOL DISTRICT VISION FOR DIGITAL LEARNING.....	6
FUTURE READY TECHNOLOGY FRAMEWORK.....	6
GEAR 1: CURRICULUM, INSTRUCTION, ASSESSMENT.....	7
GEAR 2: USE OF SPACE AND TIME.....	8
GEAR 3: TECHNOLOGY, NETWORKS AND HARDWARE.....	8
GEAR 4: DATA AND PRIVACY	9
GEAR 5: COMMUNITY PARTNERSHIPS	9
GEAR 6: PERSONALIZED PROFESSIONAL LEARNING.....	10
GEAR 7: BUDGET AND RESOURCES	10
CURRENT DIGITAL TOOLS AND RESOURCES	11
CURRENT INFRASTRUCTURE.....	12
CONNECTIVITY.....	12
SECURITY	13
PROJECTED REFRESH CYCLE (2019-2026).....	14
COMMUNICATION	14
BUDGETING.....	14
E-RATE	15
PROJECTED BUDGETS	15
APPENDIX A - DISTRICT POLICIES RELATING TO TECHNOLOGY.....	16
APPENDIX B – ISTE STANDARDS FOR STUDENTS, EDUCATORS AND ADMINISTRATORS.....	16
APPENDIX C – AASL NATIONAL SCHOOL LIBRARY STANDARDS FOR LEARNERS	16

AUBURN SCHOOL DISTRICT MISSION AND CORE VALUES

It Takes a Village to Educate a Child

MISSION

The mission of the Auburn School District is to ensure that each student develops the foundational academic skills and knowledge necessary to be a contributing participant in an evolving global society. We work collaboratively with our community to provide the highest quality education in a secure, positive, and challenging environment for all students.

CORE VALUES

High Achievement

We will:

- Set high expectations and standards for all students and staff.
- Teach students to be involved and active learners who work hard, think critically and communicate effectively.
- Educate the whole child through engagement in academic, physical, civic pursuits and the arts.

Excellence in Teaching

We will:

- Recruit and retain passionate, knowledgeable and skillful teachers.
- Support a professional and collaborative learning community that sustains a culture of intellectual excitement, creative instruction, and personal growth.

Innovation

We will:

- Be recognized as a leader in education and curriculum development.
- Foster critical thinking, open mindedness, creativity and collaborative problem solving with our students and staff.
- Continuously assess learning and adjust teaching practices accordingly.

Respect

We will:

- Create an environment where students feel known, safe, and valued.
- Recognize the uniqueness and dignity of individuals of differing races, religions, classes, ethnicities, sexual orientations, learning styles and abilities.

Culture

We will:

- Create a culture of collaboration, collegiality and open communication.
- Welcome divergent ideas on important issues.
- Cultivate citizens who contribute to and care about their community and the world.

VISION

The vision of the Auburn Village School is to realize the full potential of each and every student. The District Technology Committee believes that to achieve this vision, technology must be effectively integrated into core instructional programming and used to efficiently to provide access for students to high quality learning experiences.



Graphic from page 18 of National Educational Technology plan 2016.

CORE BELIEFS FOR EDUCATIONAL TECHNOLOGY

1. Engagement and learning can increase with the use of technology.
2. Technology can support differentiation of learning.
3. Active participation of students and their contribution to the learning process can increase with the use of technology.
4. Project and inquiry based learning experiences can be enhanced with the use of technology.
5. Technology skills are best learned in context through project and inquiry based learning.
6. Technology supports broader collaboration opportunities both locally and globally.
7. 21st century communication requires fluency in the use of technology.

AVS students will:

- experience a variety of technology throughout their academic careers and take these skills forward to enhance their future learning.
- have regular meaningful interactions with technology of all types in all disciplines and grades in order to build their creativity, collaboration and independence.
- have equal access to technology throughout the school day to enhance learning.

AVS teachers will:

- use technology to enhance instruction and promote critical thinking
- transform passive use of technology to active and innovative use of technology
- utilize technology as a tool for facilitating and showcasing student learning.
- Provide students with instruction and experiences that utilize a broad range of technology tools in order to take these skills forward to enhance their future learning.

INTRODUCTION

The Auburn School District is committed to create, maintain, and annually update a technology plan developed by multiple district stakeholders to meet current and future technology demands. The plan will embrace industry standards and federal, state, and local laws regarding privacy, security, and online safety across all areas of the District while keeping an eye on future technology trends. The purpose of this technology plan is to provide a comprehensive framework and planning document to guide the Auburn School District's technology needs and support for the next three academic years (2019 - 2022). The nationally recognized ISTE Standards for Educational Leaders (Appendix B) and the Future Ready Framework guided development of this document.

AUBURN SCHOOL DISTRICT VISION FOR DIGITAL LEARNING

Our district provides all students with personalized learning environments that promote deeper, authentic learning experiences. Our focus on student collaboration, problem solving will help students develop the knowledge and skills necessary to learn effectively and live productively as responsible citizens in an increasingly digital world.

FUTURE READY TECHNOLOGY FRAMEWORK

This plan is aligned with the Future Ready Technology Framework, which provides a systematic approach to addressing technology needs and planning across seven interconnected constructs of "gears" including:

- Curriculum, Instruction, and Assessment
- Use of Space and Time
- Technology, Networks, and Hardware
- Data and Privacy
- Community Partnerships
- Professional Learning
- Budget and Resources



GEAR 1: CURRICULUM, INSTRUCTION, ASSESSMENT

Curriculum, instruction, and assessment practices will leverage the full range of technology and digital resources to ensure all students are immersed in rich, authentic, personalized and relevant learning experiences that enable global, career-based, and deeper learning across all disciplines as digitally responsible citizens.

- Goal 1: Develop and implement a process to identify, evaluate, and access platforms and tools for instructional use.
 - Develop a process for vetting existing and new resources. Process may include rubrics, pilots, and a set of criteria (connection to curriculum, usability, privacy).
 - Conduct annual review of existing resources.
 - Create a teacher resource center including a collection of approved software and services.
- Goal 2: Develop and implement a K-8 student-centered learning model.
 - Strategically implement digital learning best practices that integrate personalized learning to all curricular areas, guided by nationally recognized ISTE Standards for Students (Appendix A).



GEAR 2: USE OF SPACE AND TIME

Students will participate in student-centered, competency-based learning supported by the use of flexible space and time.

- Goal 1: Provide a variety of educational opportunities that allow students to learn in different ways and times that fit their individual needs and fully embrace flexible, anytime, anywhere learning.
 - Identify the tools and resources that will optimize access to learning opportunities.
 - Create and support physical and digital learning spaces that enable flexible learning for all students and staff.



GEAR 3: TECHNOLOGY, NETWORKS AND HARDWARE

Digital learning will be supported by a current, robust, and sustainable infrastructure that requires and provides a safe environment to support the full potential of technology utilization.

- Goal 1: Robust bandwidth and a supportive infrastructure will be in place to ensure ready and consistent access to online resources for teaching and learning.
 - Network usage is monitored for sustainability.
 - Establish an upgrade and replacement cycle for networking infrastructure.
- Goal 2: Provide a diverse array of devices and software for students and staff that support powerful digital learning anywhere and anytime.
 - Develop a comprehensive refresh cycle for student and staff devices.



GEAR 4: DATA AND PRIVACY

A robust infrastructure will be provided that supports tools, resources, data, and systems while ensuring privacy, safety, and security for all students and staff.

- Goal 1: Ensure sound data privacy and security policies, procedures, and practices are in place at the district, school, and classroom level.
 - Maintain a data governance plan that is aligned with state requirements and local district policies.
 - Conduct annual review of data governance plan.
 - Develop a timeframe for meeting the requirements of the Data Governance Manual.
 - Develop annual training modules for staff regarding data privacy, security, and best practices.
- Goal 2: Educators in the school district are data literate.
 - Administrators and teachers are aware of the legal and ethical responsibility to ensure security, accuracy, and privacy in the collection, analysis, exchange of, and reporting of data.



GEAR 5: COMMUNITY PARTNERSHIPS

The District will actively engage in community partnerships and communicate effectively across the district with students, families, and the community at large.

- Goal 1: Improve communications to parents and the community through the selection and support of approved tools that provide consistent messaging that is clear and accessible.
 - Develop a strategy and guidelines for district communication.
 - Create a coordinated digital and social media presence.
 - Guide schools to improve school-to-home communication through a variety of venues.

- Goal 2: Strengthen community partnerships.
 - Cultivate and strengthen partnerships that support community service and the use of community-based experts and resources.



GEAR 6: PERSONALIZED PROFESSIONAL LEARNING

Technologies will be leveraged to ensure access to high quality, ongoing, job-embedded professional learning opportunities for all teachers, staff, and administrators that support the development of 21st century skills, effective teaching strategies, and shared ownership and responsibility for professional learning.

- Goal 1: Create a professional development plan that transforms instructional approaches in our classrooms.
 - Provide targeted learning opportunities on tools and strategies for instruction and classroom management in a digital learning environment guided by nationally recognized ISTE Standards for Educators (Appendix A).
 - Teachers and administrators will have access to online professional resources.
- Goal 2: Provide sufficient technical and instructional support characterized by a positive service orientation.
 - Support is proactive, providing resources, coaching, and just-in-time instruction to prepare teachers and students to use new technologies.



GEAR 7: BUDGET AND RESOURCES

Strategic short-term and long-term budgeting will be implemented that supports our digital learning vision with consistent funding streams for both recurring and non-recurring costs.

- Goal 1: Develop a short-term and long-term plan for procure necessary resources for the digital environment.

- Priorities for budget and resources are clearly linked to district and building plans and continuous improvement.
- Refresh cycles will be developed for both infrastructure and tools / devices.
- Goal 2: Budgets at the district and school level are aligned in order to prioritize student learning and cost efficiency.
 - Ensure that recommended tools, resources, and strategies are aligned with district goals and will have the greatest academic return on investment.



CURRENT DIGITAL TOOLS AND RESOURCES

Auburn Village School continues to make strides towards increasing the number of computers and technologies available to the educator and student population in conjunction with the goal that technology is available, pervasive, and second nature. Our intended computer / device life cycle plan is replacement every 5 years maximum. Our current teaching technology inventory consists of the following:

Computers / devices:

Type	Quantity	Purchase Year
Desktop PCs	5	2010, 2015
Windows Laptops	100	2009 - 2018
Chromebooks	694	2014 - 2018
iPads	111	2012, 2018
iMacs	6	2010
MacBook Pro	6	2012, 2016

In the school year of 2016/2017, we established a 1:1 ratio of Chromebooks to students. The purchase plan for 1:1 Chromebooks is to provide new devices for entering first graders and then refresh the devices in 6th grade. This provides a new device for each student in the heaviest usage years of grades 6-8 (3 years), and a longer device lifetime for lower impact use in Grades 1-5 (5 years). Kindergarteners receive reused Chromebooks from prior grades. However, this plan does not provide a consistent replacement cycle as the typical life of a Chromebook is 4-5 years.

Other Technology Available Educators and Students:

Device Type	Quantity	Purchase Year
Interactive Boards	14	2009-2018
Document Camera	44	2009-2018
TV Displays	9	2014-2016
Network Printers	7	2018 and leased
Projectors	49	2010-2018

Every classroom has a presentation display device (projector or TV), a document camera, and access to several network printers with color and/or large format paper. A network printer is available to staff and students on each floor and in each wing.



CURRENT INFRASTRUCTURE

AVS moved to a virtual server environment in July 2017 that provides benefits in terms of resource efficiency, power management, redundancy and systems management. We have one hyper-converged, dual node server with two compute slots and shared storage as our virtual host, and 5 additional servers acting in a variety of roles for backup, local storage and software host. The virtual servers within the host are in need of operating system updates to reduce vulnerabilities and enable newer features and services.

Power backup for infrastructure is both battery backup for short-term outages (seconds to minutes) with generators taking over when outages are longer.



CONNECTIVITY

The Auburn School District network consists of a managed network solution with 4 intermediate distribution frame (IDF) locations; three (3) are connected through copper cabling at 1Gigabit per second (1Gbps), and with the completion of the 2019 addition, a 10Gbps fiber optic line will run from the server room to the IDF in the 2019 wing. The remaining IDFs will be refreshed with a faster uplink connection in the future (Gear 3 Goal 1).

A managed, cloud-based, wireless solution provides wireless access throughout all areas of the school for students, educators and the community. Forty (40) wireless access points (WAPs)

are mounted in each classroom and the cafeteria. Wi-Fi signal strength and coverage is very good for instruction in each classroom area; however, the gym and the nurse's office have adequate signal at a slower connection speed. The WAPs allow connections to devices with both the current Wi-Fi standard (802.1ac) and prior standards (802.1a/b/g/n), and should be compatible with our fleet of existing and new devices for the next 5 years. Each WAP is connected by a single 1Gb wired connection and has a second connection so that additional bandwidth can be obtained in the future when bandwidth monitoring indicates the need for more. The 2019 renovation will enable this second connection for most of the building classrooms, so only the first and second floor wing will need additional cabling.

In 2017/2018, we upgraded from a Comcast business class coaxial connection to a dedicated, configurable fiber network at the same connection speed of 100Mbps. The advantage of dedicated fiber is that we are no longer sharing network traffic with other Comcast users on the same coax line. The fiber connection handles all network traffic for instruction. Bandwidth monitoring will indicate when we will need to increase speed or capacity.



SECURITY

Network traffic for instruction is secured through a firewall and proxy server. The firewall permits only network traffic that meets specific rules from the Internet onto the local network or from a local device out of AVS onto the Internet. The proxy server prevents outside networks from seeing local network devices to help prevent hacking attempts. Staff and student Internet traffic is filtered for both security risks and inappropriate content according to district policy.

In 2019, SAU15 and AVS developed a data governance manual (DGM) to provide both structure for the use of student and staff data and a framework for operations. The DGM will be updated annually along with this technology plan. We will move toward compliance with the DGM in the upcoming years (Gear 4 Goal 1).

PROJECTED REFRESH CYCLE (2019-2026)

Item (quantity)	19-20	20-21	21-22	22-23	23-24	24-25	25-26
Laptops	15	18	18	18	18	18	18
Chromebooks for grades K,6	60	78	70	78	80	78	85
Switches MDF						X	
Switches IDF			3				
WAPs (Wifi)					40		
Servers			Backup				VM Host
Interactive Whiteboards		3	3				
Projectors / TVs		5		5		5	
Firewall			X				



COMMUNICATION

Electronic communication (email) is managed through a domain setup with Google shared throughout SAU15. Bright Arrow is a digital voice dialer that delivers voice messages, emails, text messages and social media posts seamlessly with integration through PowerSchool. The school website is aligned with the SAU and uses the open-source platform, WordPress. Teachers maintain their classroom websites in Google sites, and also use the Bloomz application that allows them to connect with parents, teachers and staff individually, in groups or school-wide to coordinate events, sign up teachers and parents for volunteer help, and share school resources and multimedia. PowerSchool, our student information system, stores all student demographic and academic data, and allows parents to access student grades and daily bulletins. In 2019, with the completion of the building addition, we will move telephones to Voice over IP (VoIP) hosted on our network infrastructure. This provides great flexibility in managing telephone communications both from the user perspective and for management.



BUDGETING

The Auburn School District's technology budget includes budget lines for hardware, software, repairs, contracted services, professional development, and replacements. Budget items are discussed at the technology committee level and are evaluated and adjusted throughout the school year. Items are strategically designed to support the daily functions of the school district.

E-RATE

The E-Rate Program - or, more precisely, the Schools and Libraries Universal Service Support Mechanism - provides discounts to assist most schools and libraries in the United States to obtain affordable telecommunications and Internet access. Four service categories are funded: Telecommunications Services, Internet Access, Internal Connections Other Than Basic Maintenance, and Basic Maintenance of Internal Connections. Discounts range from 20% to 90% of the costs of eligible services, depending on the level of poverty and the urban/rural status of the population served. Eligible schools, school districts and libraries may apply individually or as part of a consortium.

PROJECTED BUDGETS

	2018-19 Approved	2019-20 Approved	2020-21 Projected	2021-22 Projected
Personnel	Per contract	Per contract	Per contract + PT Tech	Per contract + PT Tech
Professional Development	650	800	1200	1200
Contracted Services	21,900	20,125	12,000	10,000
Repairs	500	500	1200	1200
Supplies	6650	6650	7200	7200
Software	10,950	12,302.50	15,550	16,000
New computer equipment	0	1180	0	0
Replacement Devices	28,800	41,250	47,800	35,400
Replacement Infrastructure	0	0	0	15,000
Replacement Classroom Items			15,000	
Dues and Fees	510	600	1250	1250

APPENDIX A - DISTRICT POLICIES RELATING TO TECHNOLOGY

Policy Identifier	Policy Title
EEAB	Video And Audio Recording For Instructional Purposes
EGAD	Copyright Compliance
EHAA	Computer Security, E-mail and Internet Communications
EHAB (to be adopted)	Data Governance and Security
GBEF	School District Internet Access For Staff
GBEF-R	Acceptable Internet Use Procedures - Staff
JICJ	Communication Devices
JICL / IJNDB	School District Internet Access For Students
JICL-R	Acceptable Internet Use Procedures For Students
JICM (formerly JICLA)	Personal Device Usage

Auburn School District polices are available on the district website: auburn.sau15.net

APPENDIX B – ISTE STANDARDS FOR STUDENTS, EDUCATORS AND ADMINISTRATORS

For Students: <https://www.iste.org/standards/for-students>

For Educators: <https://www.iste.org/standards/for-educators>

For Education Leaders: <https://www.iste.org/standards/for-education-leaders>

APPENDIX C – AASL NATIONAL SCHOOL LIBRARY STANDARDS FOR LEARNERS

<https://standards.aasl.org/wp-content/uploads/2018/08/180206-AASL-framework-for-learners-2.pdf>