
Technology Plan

July 1, 2007- June 30, 2010

www.laurusacademy.org

Laurus Academy

24590 Lahser Road

Southfield, MI 48034

248-799-8401

District Code 63918

Oakland School District

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Technology Plan July 1, 2007- June 30, 2010

Laurus Academy

School Contact Information

Intermediate District Name:	Oakland Schools
District Name:	National Heritage Academies
School Name:	Laurus Academy
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URL for technology plan on Web:	www.laurusacademy.org
Years covered by plan:	2007-2010
Start date of plan:	July 1, 2007
End date of plan:	June 30, 2010

Introduction

About Laurus Academy

School Technology Purpose Statement

Working in partnership with parents and community, Laurus Charter Academy's technology mission is to enable staff and students to best utilize technologies in the school setting to support the school's mission to better educate more students.

We expect our students to master basic skills and realize their full academic potential in preparation for higher education and adulthood.

Vision

All students will be computer literate by Eighth Grade.

School History & Demographics

Laurus Academy was founded in 2004 by a local board of directors. Subsequently, National Heritage Academies was hired to provide professional services to Laurus Academy. Since its opening, Laurus Academy has seen enrollment grow to 535.

The population of the school reflects that of the surrounding community and is broken out as detailed below:

School Demographics

	Female	Male	Total
American Indian/ Alaska Native/Native Hawaiian	0	0	0
Asian American	0	0	0
Black/African American	264	265	529
Hispanic/Latino	0	0	0
White	2	4	6
Totals	266	269	535

School Affiliation & Philosophy

In order to fully understand the role of technology at Laurus Academy, it is important to understand the relationship between the school and the company contracted to provide professional services.

National Heritage Academies (NHA) is an Educational Services company founded in 1995 to support charter schools with professional management services. Since its first contract with Excel Charter Academy in Grand Rapids, Michigan, NHA has expanded to support 53 schools serving over 32,000 students in 2006-2007.

NHA provides shared services between the schools it manages including, but not limited to:

1. Facility management
2. Curriculum support & staff development
3. Human resource support
4. Accounting and finance support
5. Board relations
6. State compliance & reporting
7. Technology infrastructure design, management, and support

NHA affiliated schools maximize school success through a deliberate process of sharing common resources to leverage economies of scale and sharing best practices to drive for continuous improvement.

For more information about National Heritage Academies, please refer to the NHA website, <http://www.heritageacademies.com>.

High Student Performance

Student achievement is the bottom line for measuring success at Laurus Academy. Bearing this in mind, all activities and programs are evaluated using this metric. Technology, therefore, adds value in as much as it positively impacts student achievement.

We believe that “how” technology is applied in the classroom is substantially more important than “how much” or “how often” technology is applied. Technology’s role in an instructional setting should be deliberate, well-designed and continuously assessed. Ultimately, the successful application of technology for learning lies in the alignment of curriculum, staff preparedness, the quality and availability of training, responsive support systems, and the existence of a reliable and accessible infrastructure.

Safe, Orderly, and Caring Schools

Laurus Academy relies on NHA’s Moral Focus curriculum as a core element for developing a safe, orderly, and caring school environment. In this environment, students learn to make decisions based on morals such as justice, temperance, fortitude, and perseverance.

In a culture that is increasingly dominated by the presence of technology, students will be able to see the connection between actions and consequences. Just as NHA aligns its technology with its instructional goals and objectives, the policies relating to technology use must align with the development of strong moral character and good citizenship. This alignment is reflected in documents such as the Acceptable Use Policy [AUP] (see **Appendix**).

In an effort to ensure safety in the school environment, technologies such as classroom telephones, security systems, and facility monitoring systems are leveraged.

Quality Teachers, Leaders, and Staff

Laurus Academy is committed to developing an environment that fosters professionalism, personal growth, and knowledge acquisition. Technology plays a key role in the development of this environment by providing tools that can increase productivity, allow access to NHA’s curriculum resources, and connect teachers with resources and people throughout the world. To develop truly world-class teachers and administrators, Laurus Academy will implement a targeted staff development program designed to help the teachers at school become more effective in their various roles by leveraging technology. This staff development effort will be supported by NHA resources and methodologies as part of a larger staff development effort.

Strong Family, Community, and Business Support

Laurus Academy is committed to partnering with parents as a foundational element of our educational program and the development of a strong school culture. Research tends to support this approach, indicating that parent involvement has a measurable impact on student achievement¹. Accordingly, over the 2006-2007 school years, a technology

committee made up of Laurus Academy administration, teachers and parent consultant was established to begin the initial process of developing and finalizing this plan. A parent representative from the Laurus Academy School Improvement Team has also reviewed and approved this current plan's emphasis and goals.

With the support of NHA, Laurus Academy believes that communication technology can be a powerful force in removing the barriers that sometimes exist between the classroom and the living room. NHA has already initiated efforts that build and support technologies to extend the learning environment beyond the walls of the classroom and into student's homes. Additionally, the application of technology will, provide parents and students with access to supplemental curricular materials that will reinforce the students' classroom experiences. For example the "Study Island Program".

The use of technology also provides Laurus Academy with the ability to involve the greater community in the life of the school. With tools already in place, Laurus Academy can make school-related information publicly available on the school Web site www.laurusacademy.org.

Effective and Efficient Operation

Laurus Academy derives several significant benefits through our association with NHA. Chief among these is access to professional services and resources that would otherwise be unaffordable. Because Laurus Academy is one of 53 schools receiving services from NHA, we are able to take advantage of a shared services model that results in economies of scale. Through our contract, we are serviced by a professional technical team that provides Laurus Academy with consulting, implementation, and support for all technology efforts. As a result of these shared services, our school is part of a network of other schools and best practices are shared readily.

Curriculum and Instruction

Current Situation

While NHA provides a recommended curriculum scope and sequence for technology use and skill development, Laurus Academy is focused on implementing these resources to ensure that all students to develop the requisite computer skills to be technologically literate by the time they leave the Eighth Grade.

With access to technology as outlined in the infrastructure & connectivity section of this plan, Laurus Academy has the resources necessary to effectively deliver the curriculum. In addition, the school allocates time for technology use to meet NCLB and state standards.

Technology and Information Literacy Instruction	
Kindergarten	30 minutes
First Grade	30 minutes
Second Grade	30 minutes
Third Grade	At least 30 minutes
Fourth Grade	At least 30 minutes
Fifth Grade	At least 30 minutes
Sixth Grade	At least 30 minutes
Seventh Grade	At least 45 minutes for 5 week periods/ each quarter
Eighth Grade	At least 45 minutes for 5 week periods/ each quarter

Additional technology use is expected outside of technology-specific instruction. Students are asked to use technology to further their academic development through its use in content-specific projects such as curriculum-based presentations, classroom simulations, and research/review of Web-based content.

Laurus Academy encourages the teachers' use of technology by providing real-time support through the Library Technology Specialist (LTS). Based in the school, the LTS consults with teachers on a daily basis to identify and support technology integration opportunities within the classroom. Through the school's affiliation with NHA, the school's LTS meets regionally with others in the same role.

Strengths of the Current Model for Technology & Instruction

- Technology-infused lessons have been collected, developmentally sequenced, and indexed. Each NHA affiliated school has access to a collection of lessons designed to integrate technology use with the academic curriculum while developing technology skills so that students are technologically literate by the Eighth Grade.
- Each technology integrated lesson has an assessment component of which teachers can transfer student abilities (data) to a checklist for clear record keeping and progression of skill development of each student.

- Teachers at NHA schools have a high degree of flexibility regarding technology use in the classroom. Within the context of a rigorous academic curriculum, technology is leveraged to support and enhance instruction as teachers see fit.
- LTS provide the catalyst within the school to encourage and support appropriate use of technology, to provide or develop curricular resources for teachers, and to encourage acceptance of technology integration through real-time support and staff development.
- LTS have assisted teachers to be more thorough in their assessment of student skill levels and to re-teach areas where gaps in learning have occurred.

Future

Philosophy

By incorporating NHA's approach to technology into the school environment, students at Laurus Academy will develop information literacy skills through a comprehensive technology curriculum. These skills will be transferred through the contextual use of the technology in the course of academically related activities. Teachers will develop an appropriate technology skill-set through well-aligned staff development opportunities and will apply these skills in his/her instruction.

Developing Technology Skills

NHA's core academic curriculum is very rigorous, focusing on the development of foundational skills and background knowledge. NHA approaches technology skills with a technology integrated curriculum. From this perspective, it is essential that instructional time be provided for the development of these skills.

NHA's educational approach provides the upper elementary years (grades 3-5), with curriculum integrated with technology for students to develop specific technology skills that align with state and national standards. With the ultimate goal of having each 8th grade student technology literate, technology-skill instruction will be addressed in the context of academic coursework during each student's middle school education. Teachers in grades 6-8 will continue to include the development of computer skills in their classroom activities, as well as media lab time and students will be expected to apply these skills appropriately to enhance their learning and to produce academic work in preparation for their entry into secondary school.

Technology Approach by Grade Level

	Philosophy / Approach	Resources
K – 2	<p>Technology skills are not formally taught or assessed.</p> <p>Technology is used throughout the curriculum to enhance instruction as appropriate and as indicated in the curriculum guidelines.</p> <p>Examples:</p> <ul style="list-style-type: none"> • Students access technology in the classroom or the media center as part of an instructional activity. Use of technology is designed solely to reinforce mastery of the content material. • Teachers use technology to enhance the presentation of material to their students through simulation, projection, etc. 	<p>LCD projectors, Internet connectivity</p> <p>Limited student access to computers in common spaces or in the classroom</p> <p>Basic computer skills introduced in lab and classroom setting.</p>
3 – 5	<p>Instructional time is dedicated to developing specific technology skills such as:</p> <ol style="list-style-type: none"> 1. Computer operations 2. File management 3. Word processing 4. Keyboarding 5. Presentation tools 6. Spreadsheet use 7. Database basics 8. Internet use & responsibilities <p>Examples:</p> <ul style="list-style-type: none"> • Fourth and fifth grade students take part in a regular keyboarding course with periodic refresher lessons throughout sixth grade • Teachers provide students with technology-specific instruction to prepare them to apply the use of technology to their learning. For example, a teacher may give instruction on writing formulas in a spreadsheet in preparation for a unit in which data will be stored and evaluated using a spreadsheet. • Teachers will use a combination of curriculum-aligned activities and fully technology-integrated units of curriculum deliver instruction and build technology skills as dictated by the Technology scope & sequence. (See Appendix) 	<p>LCD projectors, Internet connectivity</p> <p>Regularly scheduled student access to computers required in either a shared space (lab / media center) or in the classroom.</p>
6 – 8	<p>Instructional time in the middle school is devoted to developing specific technology skills in an authentic learning context. The skills developed in the middle school build on those developed in the upper elementary grades and expand to include:</p> <ol style="list-style-type: none"> 1. Digital imaging 2. Desktop publishing 3. Presentation 	<p>LCD projectors, Internet connectivity</p> <p>Pervasive student access to computers required in either a shared space (lab / media center) or in the classroom. The technology should become part of the tools used in the classroom.</p>

	<ol style="list-style-type: none"> 4. Basics of good design 5. Application integration 6. Appropriate Internet use <p>Examples:</p> <ul style="list-style-type: none"> • Students will be asked to create and incorporate various elements into consistent and cohesive projects that support the curriculum. • Teachers will require students to begin to view technology as a tool for producing academic work and undertaking research. 	
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Timeline for Curriculum Integration

The following timeline serves to address the integrated technology activity a student will participate in at Laurus Academy:

Grade Level	Integration Activity
K - 2	Classroom teachers are encouraged to lead technology integrated lessons when possible. They have access to resources on Curriculum Center enabling them to do so.
3 - 6	<p>Classroom teachers will teach technology integrated lessons encompassing the Technology Scope and Sequence within their core academic curriculum.</p> <p>Option 1: By following the recommended technology lesson sequence for Open Court (found on Curriculum Center), the teacher will accomplish the Technology goals for that grade level within the framework of the Open Court Reading Curriculum.</p> <p>Option 2: Alternatively, teachers may follow the recommended technology lesson sequence termed "Cross-Curricula" and will meet the technology objectives for that grade level within the framework of the core curriculum.</p>
7 - 8	Classroom teachers will continue to integrate technology into the core subject areas. In addition, a "Computer Teacher" will instruct students on the technology skills necessary to complete a technology literacy exam successfully. Students will be able to successfully complete an exam and will also be introduced to advanced technology concepts.

Technology's Role in the Academic Curriculum

Although specific technology-related skills are not treated equally at each grade level, the underlying philosophy regarding technology's role in the delivery of instruction is consistent across all grade levels. Teachers and students will have increased access to tools (such as computers, scanners, digital cameras, LCD projectors, etc.) and curriculum that can unlock the potential of these digital technologies. All teachers will be expected to develop basic competencies in the use of teaching technologies (see Technology Staff Development) and to use these technologies appropriately to enhance the delivery of

instruction. Additionally, NHA will continue the development of curriculum that capitalizes on the multi-modal aspects of digital technology (see **Appendix**)

Online Access to Curriculum

Internet-based technologies streamline the process for distributing of information. Through a NHA Compass Website, Laurus Academy has access of a vast collection of curricular resources made developed for and aligned with the NHA curriculum. These resources include:

- Unit plans
- Lesson plans
- Background readings
- Presentations
- Activities
- Handouts
- Interactive Web sites
- Assessments
- Reading lists
- Handbooks

Each resource in this collection is aligned with specific content standards. Many of the lessons are also aligned with specific technology-skill objectives.

Managing Curriculum with Technology

To support the management of student performance information at Laurus Academy, NHA will develop and implement a tool set that will enable regular reporting of student performance based on assessment data. The use of information technology in this process is vital to the management of the data and reporting both teachers and school leaders need.

Goals

Goal	Objective/ Strategy	Resources Needed (Human & Material)	Person(s) Responsible	Budget Needs	Time-line (Beginning & Ending dates)	Method of Evaluation
All teachers will be able to integrate technology lessons into the regular classroom curriculum to meet requirements of the technology scope and sequence of NHA.	Complete a minimum of 15 technology projects that incorporate technology.	LTS Academic Curriculum Resources Technology Scope and Sequence Appropriate network Hardware and Software	LTS Individual Classroom Teacher School administration	NHA Annual Operating budget for teacher professional development	August through June each year	Technology project log where teachers create and list use of at least 15 projects throughout the year that integrate the use of technology
Kindergarten-8 th grade teachers will use NWEA testing to evaluate student performance and adjust teaching practices to student needs.	Develop understanding of regular academic curriculum. After testing students, teachers will evaluate the curriculum areas that are weak and in need of more instruction.	LTS Instructional Coach Appropriate network hardware and software	Classroom Teachers IC Proctors School Administrators	NHA Annual operations budget allocations for NWEA implementation	August through June each year.	Class data provided to each teacher.
Provide flexible schedule to allow access to technology in the media center and mobile lab for students and staff.	Create a Media schedule with open times. Utilize additional TCs in Media Center for drop-ins as needed.	Media Center Mobile carts Schedule LTS	LTS	NHA Annual operations budget allocations for scheduling and content implementation	August through June each year.	Completed regular schedule with open times and sign up sheets for mobile lab/units.

Staff Development

Current Situation

Staff development is a critical element in the successful implementation and integration of technology in the school environment. Laurus Academy understands the value of staff development and has dedicated the LTS to support this function.

Since staff development efforts are most effective when they can be targeted at the needs of the staff, the first step in an effective development program is the determination of these needs. The following table details the results of a staff self-assessment at Laurus Academy:

	% of staff rating themselves as comfortable at the beginning of the year	% of staff rating themselves as comfortable at the end of the year
Log in to NHA network	94%	100%
Log in to AtSchool	94%	100%
Use Attendance Module	75%	100%
Use Report Card Module	75%	100%
Use Gradebook Module	75%	100%
Use Progress Report Module	75%	100%
Use Newsletter Module	38%	44%
Identify and Use network drives	81%	96%
Access resources	75%	89%
Set up LCD Projector	75%	89%
Set up student electronic folders	31%	52%
Interpret NHA's Technology Scope and Sequence	73%	96%

Staff Development Philosophy

Training and staff development are often underrated elements of successful technology implementation. Laurus Academy is committed to including a technology plan that includes a well-organized and comprehensive staff development component. This component will be aligned with the academic curriculum, educational philosophy of the school, and it must ultimately focus on improving student achievement.

Developing a Framework

In order to facilitate a consistent, proven staff development program, Laurus Academy will utilize the staff development framework developed by NHA. This framework is aligned with the NHA provided curriculum, the school's technology infrastructure, and personnel model for technology support. While much of the framework is provided by NHA, it has been designed to maintain a great degree of site-based flexibility.

The NHA technology staff development framework contains several component processes. The core curriculum for staff development activities is based on both state and ISTE (International Society for Technology in Education – www.iste.org) standards.

1. Establishing Priorities

- School leaders play a critical role in the success of any technology staff development initiative. The NHA technology staff development framework relies on the school leader and the school improvement team to establish this priority.
- This prioritization should be aligned with the goals identified in the school improvement plan and should reflect the needs/demands of the school environment.
- Laurus Charter Academy will be providing technology staff development sessions ongoing through out the school year supplemented by NHA Conferences and learning opportunities.

2. Identifying Needs

- Laurus Charter Academy completed the TDS during the year and will complete the survey annually to determine staff development needs for each school year.

3. Setting Goals

- Using the information gleaned from the individual self-assessments, the LTS will work with each staff member to develop individual staff development goals.
- By agreeing on individual goals, teachers, the school leader, and the LTS have clear expectations and accountability.

4. Delivering Training

- Laurus Academy will provide on-site training opportunities to staff through the LTS. Meanwhile, NHA is committed to developing an enhanced staff

development curriculum that can support self-paced learning, online delivery, small-group training, or whole instruction. The school leader, teachers, and the LTS will work together to identify the most effective means for the delivering staff development. NHA will support the LTS by providing ongoing training (training the trainer) opportunities, resources (physical and electronic), and curriculum guidelines.

- As the teachers at Laurus Academy become more comfortable with technology use, Laurus Academy envisions a shift from LTS-led staff development efforts to teacher-led staff development efforts.

5. Expanding Beyond the Classroom

- The Laurus Academy approach to technology staff development will address the technology performance gaps for all staff members.
- As Laurus Academy continues to rely more heavily on information systems to drive school operations, school leaders, paraprofessionals, and administrative support personnel must demonstrate the ability to utilize these systems effectively.

Timeline for Staff Development

The following timeline serves to address staff development over the course of an academic year:

Late August- Teacher In service	Principal LTS Teachers	<ul style="list-style-type: none"> ➤ School leader introduces staff development initiative to staff ➤ LTS uses session to introduce/review/refresh knowledge of technologies, such as cart set up and United Streaming
September 1	Staff	<ul style="list-style-type: none"> ➤ Complete self assessment
September 8	LTS, New Teacher Mentor, Coach and Administration	<ul style="list-style-type: none"> ➤ Meet to analyze results and prioritize staff development ➤ Create plan for group, grade level and individual training sessions
September 15 onward	LTS and Teachers	<ul style="list-style-type: none"> ➤ Begin meeting with individual teachers to create individualized plan. ➤ Begin scheduling group, team and individual training sessions
Principal meetings	LTS and Administration	<ul style="list-style-type: none"> ➤ Discuss progress and any issues
Monthly	LTS and staff	<ul style="list-style-type: none"> ➤ Collect curricular and training needs via sheets, team meeting attendance or during staff meetings
Quarterly	LTS and staff	<ul style="list-style-type: none"> ➤ Survey staff for progress, usefulness, etc.
As scheduled throughout year	LTS and staff	<ul style="list-style-type: none"> ➤ Hold individual, small group and large group training for staff as needed

This timeline will be followed each year to monitor progress toward the Staff Development Scope & Sequence developed using the ISTE and NETS for teachers' standards.

Other Staff Development Efforts

Recognizing the challenges that come with opening a new school Laurus Academy has made use of the resources available to implement technology. In order to train staff that was all new to National Heritage Technology, all teachers attended New Teacher Orientation where they received instruction on the National Heritage Academies Technology Systems. Information from the NHA Information Technology department that helps build staff knowledge base and technology integration is also distributed to teachers by administration.

Goals

Goal	Objective / Strategy	Resources Needed (Human & Material)	Person(s) Responsible	Budget Needs	Time-line (Beginning & Ending dates)	Method of Evaluation
Develop annual technology development plans with the assistance of LTS.	Administer self-assessment survey for the development of individual staff development plans	LTS Administration Instructional Coach Teachers Staff survey Individual staff development plans	LTS Instructional Coach Teachers School Administrator	NHA Annual operations budget allocations for school improvement plan development	August through June each year	Individual staff development plans
Identify and train teachers who will mentor other teachers in the use of educational technologies.	Create mentor list from beginning-of-year survey. Teachers will attend sessions in order to learn more information, and then share with other teachers.	Development opportunities Teacher volunteers	Administration Classroom teachers LTS	Allocated funds for teachers to attend training LTS salary and benefits	August through June each year	Teachers will share their learning with entire staff, grade level groups or individuals.

Connectivity & Infrastructure

Current Situation

Through its affiliation with NHA, Laurus Academy benefits from the professional services and shared infrastructure provided to all NHA affiliate schools. This infrastructure has been developed to support the needs of the school while minimizing the cost by effectively managing the infrastructure lifecycle, accessing shared resources, and leveraging economies of scale.

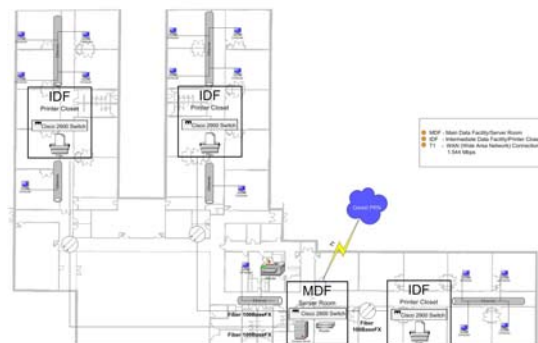
The current infrastructure at consists of the following elements:

- 1) Local Area Network (LAN)
- 2) Wide Area Network (WAN)
- 3) Internet Access
- 4) Telephony

LAN Infrastructure

The Laurus Academy facility is cabled with a minimum of Category 5 wiring throughout the building. Each physical room in the building (except restrooms and mechanical closets) contains at least one data port. All data ports are terminated in one of 4 Closets. The closets are connected via fiber optic cabling.

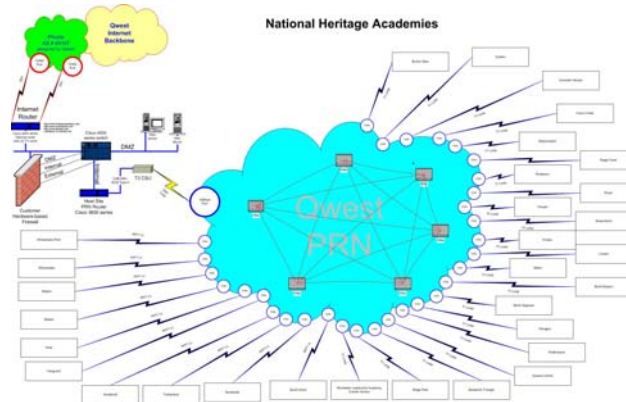
The active networking hardware operates at 100Mbps in a completely switched environment; providing 100Mbps access to each device on the network. The LAN utilizes TCP/IP exclusively. This component of the infrastructure is detailed more clearly in the diagram below:



The LAN was designed and installed by NHA's technology staff. All LAN management is handled through remote management tools by the NHA technical staff. In the event that onsite maintenance is required, the NHA technology staff either comes to Laurus Academy or contacts the appropriate local contractor to resolve the issue.

WAN Infrastructure

Laurus Academy receives many of its data services through its access to the NHA provided WAN. The WAN connectivity provides access both to NHA resources and to the Internet. The school currently has a T1 circuit provisioned through Qwest Communications. This circuit uses Qwest's Premium RPN service to connect securely to all other NHA sites in a "hub and spoke" topology. (see WAN diagram below)



WAN connectivity is monitored and managed remotely by the NHA technology staff. A WAN engineer at NHA maintains responsibility for circuit, equipment, and configuration issues. Annually the NHA technology team will re-evaluate the school needs and provide the best WAN connectivity solution for the school.

Internet Access

Internet access for Laurus Academy is obtained through the schools connection to the NHA WAN. All traffic emanating from the school is routed through a web filtering solution. All incoming SMTP traffic is routed through a content filtering application to reduce the amount of unsolicited E-mail received by staff. By providing firewall, SMTP, and HTTP filtering at a single Internet connection point, NHA is able to provide Laurus Academy with reliable services that meet or exceed CIPA guidelines while minimizing the overhead cost to the school.

Telephony Infrastructure

Telephone access is provided in every classroom at LA through 3Com's NBX voice over Ethernet system. The telephone system provides a high degree of functionality and individual voicemail. The NBX system includes a Web-based configuration tool employed by NHA's technology staff to provide support remotely for telephone issues. The specification for the NBX system our outlines in the table below:

System capacity: Supports up to 200 devices (lines and stations), including up to a maximum of 100 PSTN Central Office lines and up to 80 hours voicemail storage
PSTN gateway options: Loop-start analog, T1/PRI, E1/PRI, ISDN BRI-ST
WAN port connections: Via external router with IP-ToS support
LAN port connections: one 10 Mbps MDI (RJ-45) and one BNC Coax Connector on the call processor
Analog phone devices: Supports 2500 series-compatible analog devices, including

cordless phones, fax machines, night bells, and door ringers

Network standards: 100BASE-T, 10BASE-T, 802.1p/Q, 802.2, 802.3, IP, IP-QoS, IGMP

Application standards: TAPI 2.1, TAPI/WAV, IMAP4, HTTP, H.323

Future

The development of a flexible and connected infrastructure for LA is important. However, it is even more important that this infrastructure be designed to handle the applications that drive the instructional program at the school. Through its relationship with NHA, Laurus Academy relies on NHA for support of both its curriculum and its IT infrastructure. These departments at NHA will work closely with school officials to ensure that adequate resources are available to meet the needs of students.

Goals

Goal	Objective / Strategy	Resources Needed (Human & Material)	Person(s) Responsible	Budget Needs	Time-line (Beginning & Ending dates)	Method of Evaluation
All staff members will have their own computer.	Identify staff needs for computer technology and purchase appropriate computers.	LTS Inventory	LTS Principal NHA Service Center	Allocation of existing computers at our school and annual refresh schedule	August through June every year	Evaluate the distribution of computers for each teacher
Effective distribution of hardware throughout the building to allow teachers to meet academic and technological requirements and improve student performance.	Provide access to computers for all students.	LTS Appropriate hardware and software.	LTS School Principal	Appropriate network hardware and software	August through June every year	Track use per grade level and distribute equipment as necessary.

Personnel

Current Situation

NHA takes a two-pronged approach to the deployment of its technology support personnel. First, NHA is committed to providing training and curriculum support at the school site. Second, NHA has lowered the Total Cost of Ownership (TCO) of technology by centralizing technical support functions to its Grand Rapids office.

Instructional Technology Support

In order to provide teachers with high-levels of support for the use of technology, Laurus Academy employs a full-time LTS. The LTS's responsibilities include the supporting the delivery of a technology-integrated curriculum and the delivery of staff development.

Media Center Support

LTS staffs the majority of the media center at Laurus Academy. Media center policies and procedures are shared throughout NHA schools by a media center coordinator.

Information Technology Support

NHA provides technology support services to LA through its Information Technology (IT) team. This team provides centralized management of NHA's technological infrastructure, consults with school staff regarding technology needs and use, and sets IT policies for all NHA affiliate schools. The responsibilities of this team includes management of NHA's Wide Area Network (WAN), Local Area Networks (LANs), file servers, desktop and portable computers, Web (WWW) servers, application servers, software configurations, etc. In addition to managing this infrastructure, the IT team provides a technical support through a centralized help desk made accessible via telephone or through a Web browser.

The centralization of IT support creates economies of scale and lowers the TCO for technology implementation at the school. Currently, NHA supports 2000 desktops with four technicians (500:1 ratio) by leveraging management technologies.

Future

Laurus Academy will maintain a strong alignment between the instructional goals for technology use and the personnel in place to support those goals. The school will continue to benefit from shared resources through its affiliation with NHA, relying on NHA to provide technical support, curricular materials, and staff development resources. This partnership with NHA will allow Laurus Academy to provide effective support to instructional and administrative staff while minimizing the overall cost to the school.

Library Technology Specialist

The school's LTS will assume the ownership and responsibility of the technology program within the school. Responsibilities will include oversight of building-level technology efforts, management of the staff-development program, and ongoing assessment of building needs. This person will work hand-in-hand with teachers to support the infusion of technology in the academic curriculum.

The LTS will truly be a member of the school staff. The school leader will be responsible for hiring and managing the LTS. NHA is committed to providing training to LTS and providing guidelines for their activities. The NHA Service Center team will support the LTS by developing curricula, providing specialized training, and making resources available.

Technical Support

Technical support will be provided through the school's relationship with NHA. NHA will continue to assess its technical resources to maintain internal SLA response times to its customers. The NHA support system currently utilizes both online and telephone ticket management.

Shared Technical Services

In an effort to deliver the highest quality services at a reduced cost, Laurus Academy will continue to develop its strategy of centralizing technology services. With this strategy as its focus, NHA's technology team will evolve to be organized in three teams:

1. Network & Infrastructure services
2. Technology Deployment services
3. Application Development & Integration services

Furthermore, NHA will maintain a small inventory of standard equipment that can be cross-shipped to schools in the event of a hardware failure. This procedure will be implemented to ensure high quality, timely service while reducing the overall costs associated with technical support.

As a result of this philosophy, Laurus Academy will strive to maintain the highest caliber of technical and curriculum support with the minimum number of resources. Current practices indicate that this is not only possible, but desirable.

Goals

Goal	Objective / Strategy	Resources Needed (Human & Material)	Person(s) Responsible	Budget Needs	Time-line (Beginning & Ending dates)	Method of Evaluation
Seek funding for maximizing services of the LTA	Establish funding for expanded LTA role/hours	Funding	Administration NHA Service Center	Laurus Academy budget allocations for Library Media staffing	August through June every year	Review staffing needed to accommodate a flexible schedule and "drop ins" and special education

						classes
Additional supervision and feedback for students in the lab area.	Enlist parental support as volunteers during technology	Parent volunteers	LTS and Administration	None	August through June every year	Review Parental Survey each May

Resources

Current Situation

Network Resources

Through its association with NHA, Laurus Academy has access to several resources that would not normally be available to a school its size. Every computer at Laurus Academy is connected to the LAN and has access to the Internet through the NHA WAN.

Currently, Laurus Academy maintains a Web presence only through NHA's Web site. This presence is largely static and provides only cursory information about the school. Additional school information is provided to internal stakeholders through NHA's proprietary School Information System.

Software

Laurus Academy provides access to a variety of software resources supplied and supported by NHA's technology staff. All resources are selected to meet the academic needs of the students at Laurus Academy and enhance the instructional process.

The software resources offered as part of the model can be grouped into three distinct categories: (1) instructional software, (2) productivity software, and (3) management software.

Instructional Software

Laurus Academy offers several titles designed specifically for educational purposes to all students and teachers. The following titles are currently available at any computer connected to the school LAN unless otherwise indicated:

Instructional Software	Content Area
Inspiration 8.0	cross-curricular
Accelerated Reader	Reading
Encarta Encyclopedia (2006)	cross-curricular
TimeLiner 5.0	Timeline creator
The Graph Club 2.0	Mathematics
Type to Learn	Keyboarding
Finale Notepad	Music
Lexia	Reading

Productivity Software

Several software resources at Laurus Academy provide employees and students with tools to increase their productivity. The following list details the applications on the current software model that fit this description.

Productivity Software	Functionality
Microsoft Word XP	Word processing
Microsoft Excel XP	Spreadsheet
Microsoft PowerPoint XP	Multimedia presentations
Microsoft Publisher 2002	Desktop publishing
Microsoft Photo Editor	Photo manipulation / image editing
EasyZip 2000	Archive file extractor
Real Player 8.0	Streaming media player
Quicktime 5.0	Streaming media player
Follett Library automation suite	OPAC client
Internet Explorer	WWW browser
Adobe Acrobat Reader	Adobe PDF reader
TestWiz	Data analysis tool

System Management Software

Some software resources are available simply to improve the manageability of the systems on the Laurus Academy network. A list of these resources is provided in the table below:

Management Software	Functionality
McAfee Virus Shield	Anti-virus software
Altiris Deployment Server agent	Automated software distribution client
Windows 2000 Professional	Operating System
Compaq Insight Manager agent	Hardware inventory & monitoring
PowerChute	UPS management
ArcServe2000	Data backup & restore

Future

Laurus Charter Academy recognizes the impact of connecting people with resources. To this end, Laurus Academy envisions a learning environment where all stakeholders have ready access to the resources they need in a timely manner.

Distribution of Technology Access

The appropriate tools must be readily available for all stakeholders to access technology. Laurus Academy envisions a school environment in which every device is connected to the school network and where stakeholders can access resources appropriate to them through any device. NHA's technology group has already made great strides in this area, providing a LAN & WAN design that allows for roaming users and customized access to resources. Laurus Academy will continue to seek grants from both private and public sources to increase the number of resources available to both staff and students in the school.

Laurus Academy is committed to parent involvement. To support this, Laurus Academy has made computer access available in its parent room as well as access to other technologies as needed. Though parents have access to the computer and other technologies, and the staff is committed to encouraging parent understanding of the both the programs and progress of student learning, no plan exists to collaborate with local agencies in promoting adult literacy due to the fact that Laurus Academy is a K-8 institution. This would render the collaboration with adult literacy providers not applicable.

Alignment of Resource Selection

Providing access to resources is only part of the solution. These resources must be aligned with student and curricular needs. A new policy should provide guidelines for the selection process that include needs analysis based on the results from student assessments.

Publication of School Information

Timely information may be one of the most valuable resources available to Laurus Academy. Laurus Academy envisions addressing this expectation through the use of Internet technologies. NHA is equally committed to this vision and has laid the groundwork for achieving this goal by providing parent access to student information via At-School, a proprietary Web-based student information system. Laurus Academy will also begin to publish more content to the public via the new school webpage. Several beneficial resources are available from outside the school as well. Laurus Academy realizes the value of resources outside its network by tying NHA's core curriculum to research and resources such as

- Community and Regional libraries
- Intermediate School Districts, REMC's, and RESA's
- Video libraries
- Online media (such as video teleconferences)

Goals

Goal	Objective / Strategy	Resources Needed (Human & Material)	Person(s) Responsible	Budget Needs	Time-line (Beginning & Ending dates)	Method of Evaluation
Select and advocate for appropriate hardware and electronic resources based on assessment of student needs	Investigate various resources to address the needs of the students	LTS Hardware and Software Educational Resources	LTS Teachers Resource room teacher(s) ISD personnel	LTS salary and benefits	August through June every year	Create individualized plan for students
At least 10% of the teachers will submit resources to NHA's online lesson plan database. (Greater expectation on returning teachers rather than new teachers.)	Submit at least one best practice lesson or unit to the Curriculum Center	Electronic version of lesson or unit Curriculum Center Email LTS/Instructional Coach	LTS Instructional Coach School Administrators	LTS and Coach salary and benefits	August through June every year	List of staff who have posted to Curriculum Center.
Increase the use of technology during core classes.	At minimum, teachers will use technology in their lessons: -1 st year-1 time per month -2 nd year-2 times per month -3 rd year-1 time per week	Hardware and software Curriculum Center Scope and Sequence	LTS Instructional Coach New Teacher Mentor	LTS, Coach and Mentor salaries	August through June every year	Lesson plan notation of what is being used.

Hardware Recommendations

Current Situation

Laurus Academy takes advantage of its association with NHA for the procurement, installation, and lifecycle management of its hardware assets. This relationship allows Laurus Academy to acquire hardware with volume pricing it would not normally have access to. Additionally, by relying on NHA to handle the installation and lifecycle management, Laurus Academy is able to focus on the use of technology to enhance student learning rather than its implementation and management. Finally, this arrangement with NHA allows the school to access shared professional services from NHA. By spreading the cost of these services across all NHA affiliated schools, the Total Cost of Ownership (TCO) for Laurus Academy is minimized.

School Assets

Currently the Laurus Academy maintains a 1 computer per student computer ratio during assigned computer lab periods. Additionally, Laurus Academy is equipped with a full compliment of tier 1 networking equipment (Cisco or HP router and switches) as well as network attached workgroup printers located throughout the building and a multi-function printers/scanners/fax machine. For instructional purposes, Laurus Academy also employs 14 LCD projectors throughout the facility.

Controlling TCO through Lifecycle Management & Standards

Hardware at Laurus Academy is procured, installed, and managed through its relationship with NHA. This arrangement allows the school to maintain its focus on the instructional uses of technology while relying on IT professionals at NHA to focus on issues of performance, scalability, reliability, TCO, licensing, etc. As one of many NHA affiliated schools, Laurus Academy is able to share IT support services at a fraction of what it would otherwise cost.

NHA has adopted stringent hardware standards designed to ensure system reliability and performance while simultaneously minimizing support time and costs. These standards are enforced through acquisition and support policies and enable NHA to reach a 500:1 computer to technician ratio while maintaining the highest standards for support. Hardware standards address product continuity, total lifecycle cost, reliability, and performance. These criteria are applied to telephony hardware, desktop and portable computers, cabling, networking hardware, software, digital imaging devices, software, and management tools.

The following sections describe the current state of the hardware specified by NHA's hardware standards.

Telephony Hardware

Laurus Academy places a high value on providing telephone access in every classroom, making it standard issue for all NHA classrooms. In addition to providing ready access to

communications in the event of an emergency, the telephone also provides a critical link that supports the Parent-Teacher partnership.

Networking Hardware

Laurus Academy houses a Local Area Network (LAN) and a connection to NHA's Wide Area Network (WAN). This networking hardware is housed in data closets (MDF and IDFs) to maintain security and to protect the equipment from damage.

The NHA WAN is in place to provide connectivity between NHA affiliated schools for data transport and to serve as a common gateway for access to the public Internet. NHA's headquarters in Grand Rapids, Michigan, provides Internet access, content filtering and firewall services for nodes on the WAN. By providing a single Internet gateway, NHA is able to manage the security cost-effectively for Laurus Academy by spreading that cost over all NHA affiliated schools. This design reduces the likelihood of unauthorized access to nodes on the network and streamlines network management functions with the ultimate goal of significantly reducing TCO.

To provide data for WAN management, the NHA technology group has standardized on Cisco 2600/2800 series or HP 7100 routers.

Computer Hardware

- Laurus Academy seeks to minimize the TCO in an effort to focus financial resources on instructional activities rather than on technology support.
- By providing and adhering to hardware standards, NHA's technicians are able to provide the highest service levels by making the computing environment consistent.
- Based on industry standards and TCO models, computers and file servers can be expected to have a four-year lifecycle in each school. When replacing existing computers, NHA is deploying thin client computers with an expected life of six years.
- Printers, networking components, and additional peripheral devices (scanners, digital cameras, etc.) are expected to exceed a four-year lifecycle and will be replaced at the end of their useful lives.
- As a result of these assumptions, NHA deploys technology that should be sufficient for at least four years, with six years on the thin clients, without requiring any upgrades or maintenance. Hardware is replaced through a scheduled process entitled "refresh."
- NHA's technology group revises the standard annually to match the latest technology and insure the most effective migration path for all devices. Since 1998, NHA schools have worked exclusively with HP (Compaq) for servers, desktops, thin client computers, and laptop / portable computers.

Future

Laurus Charter Academy envisions the development of a technology rich environment that would enable the following:

- 1) Technology literate students with ready access to technologies that support the collection of information and the creation of content
- 2) Technology empowered teachers with access to technologies that enhance their instruction in powerful and dramatic ways
- 3) Technology-enabled administrators able to effectively manage school operations and monitor academic progress at the student, classroom, and school levels.

Laurus Academy considers computer technology as potentially powerful tool capable of enhancing productivity and organizational effectiveness when the systems are appropriately designed and implemented. Based on this philosophy, Laurus Academy will apply the following criteria to decisions related to hardware acquisition:

- 1) Instructional/curricular requirements
- 2) Operational requirements
- 3) State/industry standards
- 4) Support requirements (maintenance, remote management)
- 5) Total Cost of Ownership
- 6) Scalability
- 7) Return on Investment (ROI)
 - methods that evaluate administrative efficiencies, productivity, and added value
 - Impact on student learning potential and curriculum delivery.

The establishment and application of these criteria will ensure the most effective use of technology and financial resources with the ultimate goal of improving student performance.

By leveraging the schools financial resources through the use of leasing and re-thinking the use of externally acquired funding, a new hardware model was developed to maximize student access to technology.

Item	Purpose	
Writers with Word Prediction capability	Long-term use in Special Education rooms, classrooms as a writing aid and full set up on portable cart for keyboarding instruction	
Digital cameras	Teachers will have equitable access to digital cameras for student presentations, class lists, seating charts and substitute teacher preparation	

	materials	
Projectors	NHA is committed to replacing any projectors that come to the end of life cycle, Middle School requires additional projectors/room.	

Align with Instruction

Although NHA develops and maintains hardware standards for Laurus Academy, the relationship allows for the school's leadership and instructional staff to determine the best uses for this technology within the school. Given this flexibility, technology-related decisions must be made deliberately and be subject to evaluation. To this end, LA will review the technology equipment and curriculum yearly to insure continued progress toward student and staff technology competency and improved student achievement. Additionally, as the student population of Laurus Academy grows, likewise the amount of available technology will grow accordingly.

Improve Accessibility

To reach the goals for technology within the Laurus Academy instructional program, students, teachers, and administrators must all have access to appropriate resources. The curriculum calls for increasing levels of technology use as students matriculate to the upper grades. Furthermore, the curriculum calls for technology use to be tightly integrated into the classroom environment. Laurus Academy is committed to the belief that every teacher should have access to technology that ties the use of technology with the delivery of instruction in a specific content area. Laurus Academy will involve consultation from the IT professionals at NHA in an effort to make educated, impacting decisions.

In addition to the hardware provided through the contract with NHA, Laurus Academy will pursue external funding sources to provide enhanced access to technology within the school.

Enhance Robustness & Security

Due to the sensitive nature of student information, the technology employed at Laurus Academy must be dependable, reliable, robust, and secure. When considering security, confidential student information must be protected from hackers, students should be shielded from access to inappropriate material, and systems must be protected from the potential damage that can result from computer viruses. To achieve this level of security, Laurus Academy relies on NHA's technology group to employ security best practices. Such practices will include scheduled security audits, group policies for desktop computer security, policies for maintenance of security patches, employing encryption for the transmission of student data, implementations of secure technologies such as VPN, and PRN.

Provide Greater Flexibility

Technology is most successfully implemented in the school environment when its use is most closely aligned with the instructional and cultural environment in the school. While NHA's technology professionals determine hardware standards Laurus Academy will determine the appropriate quantity, distribution, and utilization of the technology to meet student needs. As a result, the technology available at Laurus Academy will provide for increased flexibility while balancing the need for hardware and software standards.

Technical Support Procedures

Laurus Academy has clearly defined technical support procedures designed to take advantage of NHA's shared IT support functions. All technical support issues are

addressed through NHA's help desk. Trouble tickets can be opened via telephone or through a self-service Web interface. Once a ticket has been issued, the ticket is immediately assigned to one of NHA's Help Desk technicians. These technicians determine whether this is a hardware or software issue. Depending on the type of issue identified one of the following action steps occurs:

- 1) The technician connects to the computer remotely and demonstrates how to correct the problem to the customer.
- 2) The technician re-images the computer, restoring the computer to its original state.
- 3) The technician records the equipment information and arranges repair from the manufacturer or value-added reseller.
- 4) If the equipment is not under warranty and it is determined to be repairable, the technician arranges for the equipment to be serviced at the NHA Service Center.
- 5) If the equipment cannot be repaired, the NHA technology group determines if replacement equipment will be authorized. If so, it will be purchased and shipped to Laurus Academy.

NHA will continue to seek more efficient methods for addressing technical support issues as both the technologies and the organization evolves.

Lower Total Cost of Ownership (TCO)

As the recipient of public funds, Laurus Academy strives to demonstrate good stewardship of its financial resources. Lifecycle management and attention to TCO are both essential elements of effective financial stewardship. With assistance from NHA's technology group, Laurus Academy will continue to apply industry best practices to technology integration with the goal of reducing the costs of ongoing support and maintenance costs. NHA will continue to track these costs over time and report the results to Laurus Academy on an annual basis.

Goals

Goal	Objective / Strategy	Resources Needed (Human & Material)	Person(s) Responsible	Budget Needs	Time-line (Beginning & Ending dates)	Method of Evaluation
Plan for and acquire hardware for use in the classroom and other educational settings.	Purchase extra technology hardware.	School budget. Corporate Technology Consultant	School Principal NHA Service Center	NHA Annual Budget allocations for Technology purchases	Technology planning ongoing throughout the 12 month calendar year	Hardware distributed throughout school evaluate use and student achievement

Policy

Current Situation

Laurus Academy has adopted several policies and procedures to ensure compliance with applicable state and federal guidelines for technology use in schools. Support for the development of these policies and procedures provided by NHA. The following list details the policies currently in effect and those currently under consideration for adoption.

Current Procedures	Procedures in Development
Deployment Procedures Help Desk Technical Support Request procedure	A plan for translating all student/parent-related policies into the predominant languages of the community (not applicable at this time)
Current Policies	Policies recently adopted
A hardware and software procurement policy that follows Information Resource Management (IRM) technology standards. CIPA compliant Acceptable Use Policy Network security policy A policy for equipment maintenance, repair, replacement, and disposal A policy for equipment/materials donation A comprehensive policy for inventory control	A Materials Selection Policy as mandated by GS115C-102.6 A Copyright Policy Guidelines for Web site development An Access to Information Policy that, if filtering systems are used, ensures adequate data retrieval capabilities for both students and staff A policy that addresses advertising and commercialism on school resources and equipment A data privacy policy that addresses FERPA and state legislation

Future

Well written policies and procedures are necessary for Laurus Academy to ensure the establishment of a safe and equitable learning environment. These policies and procedures must be aligned with the school's vision, mission, instructional goals, organizational structure, and financial model. Once these are in alignment, the policies and procedures must become the operational guides for the way technology is used and implemented throughout NHA. These policies and procedures must be accessible to all school stakeholders evaluated regularly to assure their continued alignment with the needs of the organization and the evolution of the school environment.

Material Selection

NHA affiliated schools must develop and publish a policy as mandated by GS115C-102.6 relative to its textbook program and selection of instructional materials, including supplementary textbooks, library books, periodicals, and other instructional materials.

Copyright

Each school must adopt a Copyright Compliance policy. This policy should describe acceptable use guidelines and outline legal issues surrounding copyright infringement laws.

Equipment / Materials Donation

NHA adheres to strict standards regarding the equipment and software that serves as its IT infrastructure. As a result, NHA discourages accepting donated equipment that does not meet the definitions of NHA's IT architecture. However, circumstances could arise at the local level that precipitates the acceptance of donated equipment. NHA must provide schools with a policy regarding the donation of equipment and materials. This policy should include criteria for accepting donations, definition of responsibilities relating to the maintenance/disposal of equipment, liability for equipment use, etc.

Inventory Control Procedure

With the prospect of continued growth and the existence of millions of dollars worth of equipment, NHA must establish an inventory control policy. This policy must define the roles and responsibilities for inventory control and should describe the data to be stored about each assets (value thresholds, warranty information, etc.).

Data Privacy

NHA must develop and publish a data privacy policy in compliance with the Family Educational Rights and Privacy Act of 1974 (The Buckley Amendment), 20 U.S.C. S123g and 34 C.F.R. Part 99.

Access to Information Policy

NHA affiliated schools will have an Access to Information Policy as NHA develops Internet filtering mechanisms in accordance with Public Law 106-554, The Children's Internet

Protection Act (CIPA) and the Neighborhood Children's Internet Protection Act. This policy must ensure adequate data retrieval capabilities for both students and staff and provide for legal requirements relating to Internet access. This policy will include disaster recovery.

Goals

Policies, Procedures, Guidelines	Date of Adoption or Implementation
Policies	
A. Materials Selection Policy	June 2007
B. Hardware and Software Procurement	Adopted June 2001
C. Copyright Policy	Revised June 2006
D. Acceptable Use Policy/ Internet Safety Policy	Revised June 2006
E. Access to Information Policy	Adopted June 2001
E. Access to Services Policy	Revised June 2005
F. Data Privacy Policy	Revised June 2006
G. Inventory Control Policy	Updated January 2006
H. Equipment/Materials Donation Policy	December, 2006
I. Replacement of Obsolete Equipment	Adopted June 2005
J. Network Security Policy	June 2007
K. Advertising and Commercialism Policy	Adopted June 2001
L. Discipline Policy	Revised June 2006
Procedures	
A. Hardware and Software Deployment	Revised May 2005
B. Equipment maintenance and repairs	Revised May 2005
C. Outdated Resources and Equipment Replacement	Adopted June 2005
D. Disaster Recovery of Data and Hardware	Adopted June 2005
E. Administration of Online Courses	In development
Guidelines	
A. Policy Translation	In development
B. Web Site Development	June, 2007
C. Instructional Use of Videos	Adopted June 2001
D. Development of Online Resources	Provided July 2005

Budget

Current Situation

Budgeting Philosophy

The purpose of the following sections is to outline the current budgetary model for Laurus Academy. As noted below, this budget is based on projected enrollment for succeeding years. Deviation from that projected enrollment or changes in state funding for charter schools would have an impact on the budget.

Since funding is tied to enrollment, the Laurus Academy technology budget is built on a dollars / student model to fund all hardware and software. Other items, such as Internet connectivity, staff development, and technical support are typically considered fixed costs within the budget. Combining the fixed costs and the variable costs provides us with a clear picture of the technology expenditures at Laurus Academy. All these technology expenditures and decisions of allocating these funds at the school are fundamentally tied to being successful in fulfilling the vision of all students becoming computer literate by the eighth grade.

Lifecycle Management

Laurus Academy utilizes a hardware refresh cycle for managing the cost of technology throughout its lifecycle. All equipment and software supplied through NHA is being purchased. The refresh cycle for thin client computers is six years and the remaining equipment is four years. The technology department may decide that a certain piece of hardware is still architecturally viable after the refresh cycle and will continue to deploy it.

Specific Budgeting for Instruction, Staff Development, Personnel, Resources, Hardware, and Evaluation

Budget allocations for the LTS role at Laurus Academy are embedded in the school's personnel budget. This role is budgeted as a .5 FTE once the school has more than 400 students enrolled.

Other budgeted items such as shared services provided by NHA (i.e. Internet access, WAN access, Help Desk) are accounted for in a billed services model. LA is billed for a proportional portion of the services they receive from NHA's IT department. Other services such as access to Atschool / atschool.com, the curriculum center, development of the Technology Curriculum, support for the LTS/LTA are included as value-add services and are not billed or included in the school budget.

Future

Aligning the Budget

The budgeting process for technology must not only account for acquisition of hardware, software, connectivity, and staffing, but it must also pay careful attention to the Total Cost of Ownership (TCO). NHA will continue to apply standards and IT best practices to reduce the TCO. NHA's policies and procedures insure that software and hardware are utilized for their optimal life while staying current with new technology advances.

Although charter schools are not typically funded at the same levels as their traditional public education counterparts, both Laurus Academy and NHA are committed to providing the necessary tools and resources to its students to ensure academic success. Ultimately, the distribution of technology within the school must be fully aligned with the educational philosophy and fiscal constraints at Laurus Academy. External funding sources may be sought to enhance the use of technology at the school.

Managing TCO

As evidenced in the **Infrastructure & Connectivity** section of the Technology Framework document, NHA is committed to developing systems, procedures, and support structures to improve technology's impact while reducing the TCO. NHA's Information Technology team will continue to stay abreast of IT best practices and will seek to apply those best practices where applicable to manage NHA's infrastructure (i.e. standardized hardware model, centralized help desk support for end users, etc.).

Goals

Goal	Objective / Strategy	Resources Needed (Human & Material)	Person(s) Responsible	Budget Needs	Time-line (Beginning & Ending dates)	Method of Evaluation
Continue to update the technology inventory and determine additional needs for equipment	Review technology requests and inventory listing as least twice a year	Technology Inventory Report	LTS School Principal NHA Service Center	NHA Budget allocations for technology equipment annually	Assess in the fall and in the spring of each school year	Review school technology with school administrator each June

Communication & Collaboration

Current Situation

Through its association with NHA, Laurus Academy is able to take advantage of several vehicles for communication and collaboration NHA offers. NHA has demonstrated a strong commitment to use technology for communications. NHA's strategy for communicating via technology can be traced back to the development of Atschool, NHA's Web-based student information management system. This system is has become a hallmark of our internal operations and serves as a major communication vehicle both within the organization and externally with parents.

Atschool also allows teachers to communicate specific student information with parents such as subject-by-subject grade summaries and attendance data. Because Atschool is built using Web technologies, all this information is available to stakeholders in a Web browser.

Principal Meetings – NHA currently provides technology updates (covering report card processes, resources, reviewing policies procedures, instructional practices and general questions) at monthly principal meetings for all NHA affiliated schools.

LTS - Principal Meetings – LTS at each school have periodic meetings with school leaders, school leadership teams, and at full staff meetings to discuss educational technology issues at their school (i.e. instructional uses of technology, project ideas, and teacher training).

Classroom Planning – LTS currently meet with individual teachers, small groups, or entire staffs to devise effective uses of technology with respect to the NHA curriculum.

Regional LTS Meetings – As the primary support structures within the school, LTS must be well trained in the various aspects of their role. To support these efforts, NHA has committed resources that allow for regularly scheduled regional training sessions for LTS.

Future

Technology offers solutions to the problems created by distance. Using technology effectively, Laurus Academy employees will be able to share knowledge and experiences with colleagues in other buildings and other states. This type of communication ensures the implementation of the most effective practices for instruction and school operation.

Strong channels for communication and powerful tools for collaboration are available not only within the organization, but must provide means for outreach into the local and professional communities. Laurus Academy has committed itself to providing the infrastructure necessary to facilitate communications. In order to fully realize the investment in this infrastructure, however, NHA must provide tools that encourage sharing and improve communication.

In this collaborative environment, teachers and school leaders must be willing to adopt the information age attitudes in which value is created through the open sharing of knowledge. As an organization, NHA must be willing to invest in developing and deploying tools and processes that will provide intrinsic rewards for collaborating with colleagues and customers (parents).

Affiliated Groups

Laurus Academy has identified the following groups as potential partners for collaboration at the local, regional, and national levels:

Local / Regional

Intermediate School Districts – Assist NHA with communication on state reporting regulations and access to state technology resources.

Universities & Colleges – Local colleges and universities have a wealth of technological resources at their disposal. Through affiliation with local institutions, schools may have opportunities to become part of pilot programs or benefit from access to the resources of the institutions.

Granting Agencies – NHA schools may be able to collaborate with local foundations, institutions, or businesses to form partnerships. These partnerships may result in access to grants, donations of services or goods, opportunities to share resources, or may take other forms.

National Heritage Academies - National Heritage Academies provides opportunities for collaboration through programs such as the NHA University Summer Institute (a summer training opportunity for teachers), monthly principal meetings, New Teacher Orientation (offered to all new NHA teachers), etc.

Goals

Goal	Objective / Strategy	Resources Needed (Human & Material)	Person(s) Responsible	Budget Needs	Time-line (Beginning & Ending dates)	Method of Evaluation
Teacher and LTS collaboration on authentic learning situations	Provide staff with steps, access to LTS	LTS Teachers	LTS	LTS salary and benefits	August to June every year	Review Media Center Schedule, notes, rubrics and student achievement to determine effective collaboration
Encourage students with an interest in technology	Offer after school or lunch time sessions providing additional information to students with a deeper interest in computers and technology	LTS Parents Volunteers	LTS	LTS salary and benefits	September through May each year	Review annual parent survey regarding technology
Staff will utilize electronic tools (including AtSchool and e-mail) to communicate with parents	Publication of more than 50% Classroom Newsletters to the Web	LTS Teachers	LTS	None	Sept to June every year	Observation
Encourage parental involvement and collaboration through access to student data in AtSchool (newsletters and student information)	Provide AtSchool training to parents during Middle School Parent Orientation and November Parent Conferences	LTS Parents	LTS	None	August to November every year	Attendance sheets at provided parent training

Evaluation

Current Situation

Evaluation of technology integration efforts at Laurus Academy are performed informally. The LTS is primarily responsible for the implementation of the instructional and staff development portions of the technology plan. The LTS and the school leader meet on a regular basis to assess the state of the technology efforts at the school.

On an annual basis, goals devised through the technology planning process are reviewed in the development of each school's annual action plan.

Future

The Technology Plan, as mentioned in previous sections, is valid only inasmuch as it aligns with the instructional needs and plans for the school. In order to ensure that alignment, the Laurus Academy technology will serve as an extension of the Laurus Academy School Improvement Plan. Additionally, identifying and measuring the key metrics for technology use will become part of the evaluation performed by NHA on an annual basis. Ultimately, since teachers drive the integration of technology at the classroom level, metrics and technology goals should become a part of the teacher evaluation process at Laurus Academy.

Goals

Goal	Objective / Strategy	Resources Needed (Human & Material)	Person(s) Responsible	Budget Needs	Time-line (Beginning & Ending dates)	Method of Evaluation
Identify goals of school level educational technology plans and continuously assess progress towards those goals.	Monitor progress of goals on a regular basis	LTS Tech Plan SIP	LTS	LTS Salary and benefits	August-June of each year	Monthly progress reports
Collect data at the start and conclusion of media and technology initiatives	Monitor progress and effectiveness	LTS	LTS	LTS salary and benefits	August through June of each year	Discuss during monthly meetings with principal
Promote use of rubrics and checklists to evaluate student projects/work.	Train teachers to use rubrics and checklists that monitor student progress	LTS Teachers Tech Scope and Sequence Rubrics and checklists	LTS	LTS	August through June every year	Completion /submission of assessment

Technology Acceptable Use Policy (AUP) - National Heritage Academies

The Internet is a vast collection of integrated communication and resources, including the World Wide Web, News Groups, Blogs, Wikis, E-Mail, and more. This collection of media enables students to access thousands of libraries, databases, museums, and exchange personal communication with other Internet users around the world.

Software used in school is becoming increasingly integrated with the Internet, using Internet resources to enhance the fundamentals of the software. Within our current software model, more than half of the titles are integrated with the Internet in some form. It has become inevitable and imperative for students to have access to the Internet when using a computer within the NHA network.

Families must be aware that some material accessible via the Internet contains illegal, defamatory, inaccurate, or potentially offensive language and/or images. While the goal of the school is to use Internet resources to achieve educational goals, there is always a risk of students accessing other materials. We believe you should be aware of these risks.

While there are risks, we believe that the benefits of using technology outweigh the disadvantages. Our teachers will be trained in the appropriate use of technology with students. We will make every effort to integrate the schools moral focus with lessons that utilize technology, but ultimately, parents and guardians of minors are responsible for setting and conveying the standards for students regarding the use of media and information sources at home and at school. Therefore, we support and respect each family's right to decide whether to allow their child to access the NHA computer network by having the option of accepting the **Technology User Agreement and Permission Form**. However, by choosing not to accept the **Technology User Agreement and Permission Form**, your child will not have permission to use a computer or any device attached to the NHA computer network.

Responsibilities and Expectations

All use of computers, furnished or created data, software and other technology resources as granted to the employee and student body are the property of National Heritage Academies and are intended for business and educational use. Network users shall not access, or willingly allow another person to access, any network resource without proper authorization.

Students are responsible for appropriate behavior on the school's computer network just as they are in a classroom or on a school playground. Communications on the network are often public in nature. General school rules for behavior and communications apply. It is expected that users will comply with this policy and the rules set forth on the **Technology User Agreement and Permission Form**. The use of the network is a privilege, not a right, and may be revoked if abused. The user is personally responsible for his/her actions in accessing and utilizing the NHA computer network and/or the computer resources of the school.

General Rules of the Network

- 4) **Privacy** -- Network storage areas may be treated like school lockers. National Heritage Academies reserves the right to monitor Internet traffic, retrieve and read any data composed, sent, received, and/or stored using our network and/or Internet connections. Network administrators may review communications to maintain system integrity and insure that students are using the system responsibly.
- 5) **Storage capacity** -- Users are expected to remain within the allocated disk space and delete e-mail or other material, which take up excessive storage space.
- 6) **Proper usage of printing resources** - Users are expected to use good judgment when printing on network printers. Paper, toner and color ink can be costly and excessive use of these resources is wasteful. Please proofread documents carefully before printing. Only print the part of the document that you need. In addition, users must obtain permission from their instructor before printing documents on the color printer. The color printer should only be used for work submitted as part of an assignment or project which requires color copy. All color printing should be done under direct supervision of the instructor overseeing the project.
- 7) **Illegal copying** -- Users should never download or install any commercial software, shareware, or freeware onto network drives or disks. Nor should users copy other people's work or attempt to intrude into other people's files. All copyright laws must be respected. A copy of the copyright laws pertaining to digital property can be obtained from the technology department.
- 8) **Inappropriate materials or language** -- Profane, abusive, pornographic and/or impolite language or materials is not permitted on the NHA computer network. Accessing materials not in line with the rules of school behavior is not permitted. A good rule to follow is never view, send, or access materials that you would not want your instructors and parents to see. Should students encounter any inappropriate material by accident, he/she should report it to their instructor immediately.
- 9) **Virus Protection** - All data from outside sources will be scanned for viruses before use on any computer within the NHA network. Downloading/saving of non-work related attachments to e-mails, on any computer within the NHA network, will not be allowed unless proper authorization is obtained from their instructor.

Protection of Data

1. Every effort will be made to ensure the safety and integrity of your data using a daily backup system and other security measures. However, National Heritage Academies makes no warranties of any kind either expressed or implied, for the service it provides.
2. National Heritage Academies will not be responsible for any damages to your data. This includes loss of data resulting from delays, non-deliveries, mis-deliveries, or service interruptions caused by the NHA computer network, outside networks, and/or your errors or omissions.
3. Use of any information obtained via the Internet is at your own risk. National Heritage Academies is not responsible for the accuracy or quality of information obtained through the Internet or the NHA computer network.
4. Vandalism and/or the failure to abide with this policy and/or failure to abide with the rules set forth by the **Technology User Agreement and Permission Form**, may result in cancellation of any or all network privileges. Vandalism is defined as any malicious attempt to harm or destroy any files and/or school hardware or software.

Installing Software

Network users are NOT authorized to install any software on any computers or computer related technology within the NHA computer network. Any software installed by anyone other than the network administrator will not be supported by NHA technicians and will be removed from the computer(s) on which it was installed. This is necessary to maintain network integrity and to follow all applicable software licensing agreements.

Publishing of Student Work and Photographs

From time to time, student work and photographs may be published on NHA's Intranet. This work may be published in a manner that is accessible on the World Wide Web. By agreeing to this policy, you are granting the right to use your child's work and/or photograph on an Internet accessible server.

Additional Information

1. Users are expected to be responsible, courteous and thoughtful when using school computers. Common sense should prevail. The use of the NHA computer network should be in support of education and research and consistent with the educational objectives of National Heritage Academies.
2. Teachers are expected to monitor student use of computers.
3. While Internet usage is intended for work-related activities, incidental and occasional brief personal use is permitted within reasonable limits with the instructor's permission.
4. Use of any other organizations' network(s) or computing resources via our network must comply with the rules appropriate for that network and the instructor's permission.
5. Transmission of any material in violation of any US or state regulation is prohibited. This includes, but is not limited to: copyrighted material, threatening or obscene material, or unlawful material.

6. In accordance with the Children's Internet Protection Act (CIPA), NHA has placed a filter on its Internet access as one step to help protect our users from intentionally or unintentionally viewing inappropriate material. We currently filter through a service called Websense. Websense reviews websites and places them into one or more of their 30 predefined categories. NHA blocks the categories which are determined potentially inappropriate from user groups (students/general, teachers/office/library). Enforcement of this measure is found in the following policy:

Student Internet usage is permitted only via the NHA network and only in the presence and supervision of a teacher, the child's parent or guardian, or other designated adult school personnel. All adults who monitor student activity on the Internet will be approved by the school, have read and signed the NHA Acceptable Use Policy detailed above, and be familiar with the safety/protection technology already installed on the NHA network.

**TECHNOLOGY USER AGREEMENT
AND PERMISSION FORM
2006 - 2007**

A. As a parent or guardian of a student at National Heritage Academies, I have read the **Technology Acceptable Use Policy** about the appropriate use of computers at the school and I understand this agreement will be kept on file at the school. (Questions should be directed to the principal or technology department for clarification.) I have explained the following rules to my child to the best of my ability to help them understand the responsibilities that correspond with use of the NHA computer network:

- 10) The user's data must remain within the allocated disk space on all data drives and on the e-mail server.
- 11) Downloading or installing of any commercial software, shareware, or freeware onto network drives or disks is not permitted.
- 12) Copying other people's work or attempting to intrude into any user's folders or files is not permitted.
- 13) Using profane, abusive or impolite language to communicate and/or accessing, viewing, sending or displaying offensive, obscene, or abusive materials is not permitted.
- 14) Users must obtain a username and password from the National Heritage Academies Technology Department.
- 15) Sharing your password or allowing another person to access network resources under your username is not permitted.
- 16) Leaving a resource that you are logged onto unattended is not permitted.
- 17) Logging onto a resource for use by another person is not permitted.
- 18) Visiting non-education websites, chat rooms, or personal email accounts is prohibited.
- 19) Disclosing any sensitive data to others lacking the authority or right to view that data is not permitted.
- 20) Request a password change in the event you suspect your password is no longer confidential.
- 21) Using a computer to harm people or their work is not permitted.
- 22) Damaging the computer or the network in any way is not permitted.
- 23) Violating copyright laws is not permitted.
- 24) Wasting printing resources such as toner, color ink, and paper is not permitted.
- 25) Should students encounter any inappropriate material by accident, he/she should report it to their instructor immediately.

B. As a parent or guardian of a student at National Heritage Academies, I have read the above information describing the NHA position on the appropriate use of the Internet in the classroom. I understand my child will be using devices that are connected to the Internet in a supervised and educationally focused environment. I also understand that any breach of this "User Agreement" will result in the loss of computer privileges.

ACCEPT We accept and agree to abide by **the National Heritage Academies Technology User Agreement and Permission Form**. This agreement is on record and valid until my child is no longer enrolled with a school affiliated with National Heritage Academies.

DECLINE We decline the right to use the technology devices provided by National Heritage Academies.

Student Signature: _____

Parent Name (print): _____

Parent Signature: _____ **DATE:** _____

Please sign, date, and return this form to your school

Copyright Protocol

Dated 11/09/06

- NHA employees who provide original written, musical or technical work for NHA, in the course of their employment, are bound by the terms and conditions of the Copyright Clause contained in the Employee Handbook.
- Vendors hired to create written, musical or technical work for NHA, should sign an Assignment of Copyright. The Assignment transfers all copyright ownership to NHA. An Assignment of Copyright can be obtained from Dani Phillips, Legal Services & Risk Manager (616.954.3090) or dphillips@heritageacademies.com.
- Classroom Teachers are given considerable advantage in using copyrighted materials but should be trained in proper citation requirements and the scope of materials that can be copied.
- NHA customer service center employees who use materials from an outside source must follow the copyright clause displayed within the body of that source (e.g. a copyright clause may require permission before using the materials). NHA may be held to a higher standard than a Classroom Teacher. All sources should be properly cited.

Copyright Training:

Step 1: Library Technicians should be the initial point of contact for questions regarding copyright use. The "*Copyright Guidelines for Administrators*" by Hall Davidson is an excellent resource for training (www.techlearning.com).

Step 2: The above referenced poster may be used for nonprofit purposes. Approval must be submitted to techlearning_editors@cmp.com.

Step 3: The "*Copyright Guidelines for Administrators*" should be displayed in the Library. Training of teachers should be conducted on-site and on a semi-annual basis.

Step 4: Copyright guidelines should be taught to students and volunteers by each individual teacher.

Step 5: Annual review should be conducted of the Technology Policy and Plan.

Step 6: Semi-Annual audits should be conducted of licensed and registration materials.

National Heritage Academies

Technology Scope and Sequence for Staff

N	Novice: Introduction and overview of learning concepts/areas
B	Basic: Developed skills through planned training sessions
P	Proficient: Applied learning without direction
C	Technology Coach: Can train and assist others

Network Basics

		Years as a NHA Teacher	NTO	1	2	3	4	5
Login and Network:								
	NHA Technology Standards & Model							
	Log-in to the NHA Network	N	B,P	P	P	P	P	C
	Identify and use school network drives such as the Personal Z.; Universal & Project Drive(s)	N	B,P	P	P	P	P	C
	Contact the NHA Help Desk (electronic tickets and telephone)	N	B	P	P	P	P	C
	Understand the process and purpose of the NHA Desktop Image	N	B	P	P	P	P	C
	Identify and use other drives (e.g. A: Floppy & D: CD; other...)		N,B	P	P	P	P	C
	Locate computer identification information (e.g. IP address & Serial Number)		N,B	P	P	P	P	C
	Reset a Student's Password		N	B	P	P	P	C
File Management:								
	Save and retrieve documents (Name a file, choose a location and retrieve saved files)		N,B	P	P	P	P	C
	Distinguish between Save and Save As			N,B	P	P	P	C
	Create, save, open and move documents inside sub-folders			N	B	P	P	C
Printing:								
	Set a default printer		N,B	P	P	P	P	C
	Select various printers within the building		N,B	P	P	P	P	C
	Print only selected pages from documents		N,B	P	P	P	P	C
	Print duplex		N,B	P	P	P	P	C

Electronic Mail

	Create a New message; Add multiple recipients	N,B	P	P	P	P	P	C
	Reply to a message	N,B	P	P	P	P	P	C
	Forward a message	N,B	P	P	P	P	P	C
	Use the Address Book (Search for mail recipients)	N,B	P	P	P	P	P	C
	Add Attachments to E-Mail (e.g. pictures, documents)	N,B	P	P	P	P	P	C
	Open an Attachment from E-Mail	N,B	P	P	P	P	P	C
	Download an Attachment to an appropriate storage area (network drive)	N	B	P	P	P	P	C
	Organize E-Mail (create and use filing folders; role of Public Folders)		N,B	P	P	P	P	C
	Sort messages (by name, date subject)		N	B	P	P	P	C

	Delete E-mails (clean out your Mailbox)		N	B	P	P	C
	Create Distribution and Contact Lists		N	B	P	P	C
	Use the Outlook Web Access Calendar			N	B	P	C

AtSchool Student Information System

Atschool Teacher Modules:							
	Attendance		N,B	P	P	P	C
	Gradebook		N,B	P	P	P	C
	Progress Reports		N	B,P	P	P	C
	Report Cards		N	B,P	P	P	C
	Publications (newsletters)		N	B,P	P	P	C

Hardware

	Set up and use Mobil Laptop Cart		N	B	P	P	C
	Set up and use mobile Keyboarding System		N	B	P	P	C
	Set up and use the LCD Projector		N	B	P	P	C
	Basic Troubleshooting			N,B	P	P	C
	Use the Telephone System			N,B	P	P	C
	Use the Scanner			N	B	P	C
	Use the Digital Camera			N	B	P	C
	Use the digital Video Camera				N	B	C

Microsoft Software Applications

MS Word: Word Processing							
	Enter text into a new Word Processing document		N,B	P	P	P	C
	Change the font and size of text		N,B	P	P	P	C
	Align text with alignment buttons		N,B	P	P	P	C
	Highlight text with the mouse		N,B	P	P	P	C
	Change the format of text with bold, italics and underline		N,B	P	P	P	C
	Use the cut and paste commands		N,B	P	P	P	C
	Use the menu bar functions		N,B	P	P	P	C
	Insert and format Clip Art		N,B	P	P	P	C
	Use Spell Check		N,B	P	P	P	C
	Learn Keyboard short-cuts (Ctrl-V = Paste, etc...)			N,B	P	P	C
	Learn to use headers and footers			N,B	P	P	C
	Insert and format other digital images			N,B	P	P	C
	Word Processing Tasks - The Options Menu			N	B	P	C
MS Publisher: Desktop Publishing							
	Use the Publisher Menu Bar Functions		N,B	P	P	P	C
	Resize, group and move objects		N,B	P	P	P	C
	Link text boxes for text flow			N,B	P	P	C
	Add other digital images			N,B	P	P	C

	Add and Delete Pages			N,B	P	P	C
	Locate and use existing templates from the Template Wizard			N,B	P	P	C
MS Excel: Spreadsheets							
	Use the mouse to select and enter data into a cell			N,B	P	P	C
	Spreadsheet: Learn to add/subtract cell information			N,B	P	P	C
	Spreadsheet: Formatting (cells; columns; rows)			N,B	P	P	C
	Spreadsheet: Learn spreadsheet terms			N,B	P	P	C
	Spreadsheet: Learn to graph or chart			N,B	P	P	C
	Spreadsheet: Create basic formula functions			N,B	P	P	C
	Learn to use headers and footers			N,B	P	P	C
	Advanced Spreadsheets (Sorting, Filters, Freeze Panes; Copying Worksheets)				N,B	P	C
MS PowerPoint: Presentations							
	Use a readymade PowerPoint Presentation			N,B	P	P	C
	Learn how to select and use a design template			N	B	P	C
	Learn how to create a basic presentation			N	B	P	C
	Learn how to format a presentation with slide transitions and animation			N	B	P	C
	Learn how to insert multimedia (sound, video, etc.) and hyperlinks			N	B	P	C
MS Access: Databases							
	Know how to start a new database document				N	B	P,C
	Know database terms				N	B	P,C
	Know how to create fields and enter information into records				N	B	P,C
	Learn to sort the database based on one field				N	B	P,C
	Perform a search based on one or more fields				N	B	P,C

Graphics & Images

	Know how to use basic painting/drawing tools such as MS Paint			N	B	P	C
	Know how to select specific areas of a painting or graphic			N	B	P	C
	Knows the difference between several graphic formats			N	B	P	C
	Printing to a page			N	B	P	C
	Access and use clip art			N	B	P	C

Working with the Internet - World Wide Web

	Filtering @ NHA	N	B	P	P	P	C
	Manually enter an Internet Web Address (URL)		N,B	P	P	P	C
	Learn Internet Explorer button functions (back, forward, stop, etc.)		N	B	P	P	C
	Know basic internet terms		N	B	P	P	C
	Learn to build and organize a 'Favorites' list of most used websites		N	B	P	P	C
	Know how to create website shortcuts and hyperlinks in MS Word		N	B	P	P	C
	Know how to search and use keywords for information within a search engine program			N	B	P	C
	Know how to search for and download graphics/images within a search engine program			N	B	P	C

NHA Educational Software

	Know how to use Graph Club 2.0	N	N	B	P	P	C
	Know how to use Timeline 5.0	N	N	B	P	P	C
	Know how to use Inspiration 8.0	N	N	B	P	P	C
	Know how to use MS Encarta	N	N	B	P	P	C
	Know how to use Type to Learn	N	N	B	P	P	C
	Know how to use Accelerated Reader	N	N	B	P	P	C
	Know how to use United Streaming	N	N	B	P	P	C
	Know how to use Scholastic Keys	N	N	B	P	P	C

Education and Curriculum

Online Resources							
	Know how to access Curriculum Center	N	B	P	P	P	C
	Know how to access and use NHA History Interactive materials	N	B	P	P	P	C
	Know how to locate and use recommended internet sites	N	B	P	P	P	C
	Know how to access, download and print lesson resources from Curriculum Center	N	B	P	P	P	C
	Know how to locate and use e-curriculum	N	B	P	P	P	C
Technology Curriculum							
	Interpret and understand the NHA Technology Scope & Sequence of Content Standards	N	B	P	P	P	C
	Know how to access, download and print grade appropriate technology curriculum resources	N	B	P	P	P	C
	Deliver curricular instruction that incorporates the use of Technology		N,B	P	P	P	C
	Access and download resources to effectively assess and track student progress of technology skills		N,B	P	P	P	C
	Design lessons that incorporate the use of technology to enhance computer literacy in students.		N	B	P	P	C
	Know how to evaluate internet sites for accuracy and suitability	N	B	P	P	P	C