

Project Submission II
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Technology Standards for Students

Lakeside High School is a part of the New Hanover County School system and the State of North Carolina Department of Instruction. The standards for each national, state and local organization as related to this technology implementation are listed below.

ISTE for Students	NC Performance Indicators for Technology - Grades 6-8	New Hanover County Technology Plan for Students
<p>1. Basic operations and concepts</p> <ul style="list-style-type: none"> • Students demonstrate a sound understanding of the nature and operation of technology systems • Students are proficient in the use of technology 	<ul style="list-style-type: none"> • Apply strategies for identifying and solving routine hardware and software problems that occur during everyday use. • Demonstrate an understanding of concepts underlying hardware, software and connectivity and of practical applications to learning and problem solving. 	<ul style="list-style-type: none"> • Provide a technology facilitator/computer resource teacher and media specialist for pedagogical support at each school site • Provide support to facilitate collaborative planning between the teacher, the computer resource teacher/facilitator and the media specialist at the school level
<p>2. Social, ethical and human issues</p> <ul style="list-style-type: none"> • Students understand the ethical, cultural and societal issues related to technology • Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits and productivity 	<ul style="list-style-type: none"> • Demonstrate knowledge of current changes in information technologies and the effort those changes have on the workplace and society. • Exhibit legal and ethical behaviors when using information and technology, and discuss consequences of misuse. • Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems. 	<ul style="list-style-type: none"> • Identify the barriers prohibiting flexible access to media and technology facilities • Create a plan to address barriers to flexible access
<p>3. Technology productivity tools</p> <ul style="list-style-type: none"> ○ Students use technology tools to enhance learning, increase productivity and promote creativity ○ Students use a variety of productivity tools to collaborate in constructing technology-enhanced models, prepare publications and produce other creative 	<ul style="list-style-type: none"> • Use content-specific tools, software and simulations (e.g. environmental probes, graphing calculators, and exploratory environments, Web tools) to support learning and research. • Apply productivity/multimedia tools and peripherals to support personal productivity, group collaboration, and 	<ul style="list-style-type: none"> • Identify, communicate and utilize DPI technology resources • Provide peripheral technology tools for students • Utilize technology-based assessment tools to measure reading and math preparedness and to differentiate instruction as necessary

works	learning throughout the curriculum.	<ul style="list-style-type: none"> • Provide assistive technology tools for students (individual, small group, classroom, and offsite)
<p>4. Technology communications tools</p> <ul style="list-style-type: none"> • Students use telecommunications to collaborate, publish and interact with peers, experts and other audiences • Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences 	<ul style="list-style-type: none"> • Design, develop, publish and present products (e.g. Web pages, videotapes) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom. • Collaborate with peers, experts, and other using telecommunications and collaborative tools to investigate curriculum-related problems, issues, and information, and to develop solutions or products for audiences inside and outside the classroom. 	
<p>5. Technology problem-solving and decision-making tools</p> <ul style="list-style-type: none"> • Students use technology to locate, evaluate, and collect information from a variety of sources • Students use technology tools to process data and report results • Students evaluate and select new information resources and technological innovations based on the appropriateness of specific tasks 	<ul style="list-style-type: none"> • Design, develop, publish and present products (e.g. Web pages, videotapes) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom. • Collaborate with peers, experts, and other using telecommunications and collaborative tools to investigate curriculum-related problems, issues, and information, and to develop solutions or products for audiences inside and outside the classroom. • Select and use appropriate tools and technology resources to accomplish a variety of tasks and solve problems. • Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems. 	<ul style="list-style-type: none"> • Provide remediation and retesting opportunities for students who do not pass the Computer Skills test • Prepare and deploy a Computer Skills remediation program of study for teachers and students •

<p>6. Technology problem-solving and decision-making tools</p> <ul style="list-style-type: none"> • Students use technology resources for solving problems and making informed decisions • Students employ technology in the development of strategies for solving problems in the real world 	<ul style="list-style-type: none"> • Apply productivity/multimedia tools and peripherals to support personal productivity, group collaboration, and learning throughout the curriculum. • Design, develop, publish and present products (e.g. Web pages, videotapes) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom. • Select and use appropriate tools and technology resources to accomplish a variety of tasks and solve problems. • Demonstrate an understanding of concepts underlying hardware, software and connectivity and of practical applications to learning and problem solving. • Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems. 	
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Technology Standards for Teachers

Teachers are recognized as change agents who have the power to make a difference in classroom practices (Hurst, 1999). We need to analyze the relevant educational technology standards and policies before developing our change plan. The following is a summary of state/district policies and standards related to the change.

ISTE for Teachers	NC Performance Indicators for Technology	New Hanover County Technology Plan for Teachers
<p>1. Technology Operations and Concepts</p> <ul style="list-style-type: none"> ▶ Demonstrate introductory knowledge, skills, and understanding of concepts related to technology (as described in the 	<ul style="list-style-type: none"> ▶ Demonstrate fundamental computer operations skills and understanding of technology concepts and terms related to application of technology in a technology- 	<ul style="list-style-type: none"> ▶ Develop a technology self assessment for productivity tools ▶ Develop a technology self assessment for instructional content

<p>ISTE National Education Technology Standards for Students)</p> <ul style="list-style-type: none"> ▶ Demonstrate continual growth in technology knowledge and skills to stay abreast of current and emerging technologies 	<p>enhanced learning for students</p> <ul style="list-style-type: none"> ▶ Expand and integrate technology knowledge and skills to and into current and emerging technologies 	
<p>2. Planning and Designing Learning Environment and Experiences</p> <ul style="list-style-type: none"> ▶ Design developmentally appropriate opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners ▶ Identify and locate technology resources and evaluate them for accuracy and suitability ▶ Plan for the management of technology resources within the context of learning activities ▶ Plan strategies to manage student learning in a technology-enhanced environment 	<ul style="list-style-type: none"> ▶ Select and create learning experiences that are appropriate for curriculum goals, relevant to learners, based on principles of effective teaching and learning, incorporate the use of media and technology for teaching where appropriate, and support learner expression in a variety of media using a variety of media communication tools ▶ Use computer and other technologies effectively and appropriately to collect and communicate information on student learning in a variety of formats and methods ▶ Develop performance tasks that require students to locate and analyze information as well as draw conclusions, and use a variety of media to communicate the results clearly 	<ul style="list-style-type: none"> ▶ Deploy a technology self assessment for productivity tools ▶ Deploy a technology self assessment for quality instructional content ▶ Provide training in technology integration for teachers ▶ Model and demonstrate technology integration which reflects curriculum standards ▶ Identify practitioners to serve as model teachers for technology integration
<p>3. Teaching, Learning, and the Curriculum</p> <ul style="list-style-type: none"> ▶ Facilitate technology-enhanced experiences that address content standards and student technology standards ▶ Use technology to support learner-centered strategies that address the diverse needs of students ▶ apply technology to develop student higher order skills and creativity ▶ Manage student learning activities in a technology-enhanced environment 	<ul style="list-style-type: none"> ▶ Use technology to identify what students should know and be able to do ▶ Use media and technology to support curriculum and develop learning that address the diverse needs of students ▶ Locate and select appropriate teaching/learning resources and curriculum materials for the content area and target audience ▶ Use a variety of technology tools to support student learning activities in a technology-enhanced environment ▶ Use media and technology to facilitate teaching strategies specific to the 	<ul style="list-style-type: none"> ▶ Provide diverse training based on needs identified on self assessment following NCLB standards ▶ Provide diverse training based on needs identified on school needs and district initiatives following NCLB standards ▶ Model and demonstrate technology integration which reflects curriculum standards

<p>4. Assessment and Evaluation</p> <ul style="list-style-type: none"> ▶ Apply technology in assessing student learning of subject matter using a variety of assessment techniques ▶ Use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning ▶ Apply multiple methods of evaluation to determine students' appropriate use of technology resources for learning, communication, and productivity 	<p>discipline</p> <ul style="list-style-type: none"> ▶ Apply technology in assessing teaching/learning resources and curriculum materials for the content area and target audience ▶ Use media and technology to collect and analyze data, interpret results, and communicate findings related to teaching/learning practice ▶ Assess students' performance in the use of technology resources for learning, communication, and productivity in a variety of evaluation methods 	<ul style="list-style-type: none"> ▶ Implement new online system for registration and evaluation of training
<p>5. Productivity and Professional Practice</p> <ul style="list-style-type: none"> ▶ Use technology resources to engage in ongoing professional development and lifelong learning ▶ Continually evaluate and reflect on professional practice to make informed decisions regarding the use of technology in support of student learning ▶ Apply technology to increase productivity ▶ Use technology to communicate and collaborate with peers, parents, and the larger community in order to nurture student learning 	<ul style="list-style-type: none"> ▶ Identify and promote opportunities for teachers to upgrade professional skills and certifications for technology ▶ Provide guidance, standards, and guidelines to create a resource rich, technology rich teaching and learning environment that encourages teacher recruitment and retention ▶ Promote ethical use of technology resources ▶ Model high ethical and professional standards for all teachers 	<ul style="list-style-type: none"> ▶ Provide professional development to support local technology certification and professional development requirements ▶ Provide assistance to schools wishing to include technology integration in school improvement plans
<p>6. Social, Ethical, Legal, and Human issues</p> <ul style="list-style-type: none"> ▶ Model and teach legal and ethical practice related to technology use ▶ Apply technology resources to enable and empower learners with diverse backgrounds, characteristics, and abilities ▶ Identify and use technology resources 	<ul style="list-style-type: none"> ▶ Establish classroom policies and procedures that ensure compliance with copyright law, fair-use guidelines, security and child protection ▶ Ensuring equal access to media and technology resources for all students ▶ Understanding of legal and ethical issues pertaining to computer use, such as 	<ul style="list-style-type: none"> ▶ Provide training and guidelines on ethical and professional standards of technology use

<p>that affirm diversity</p> <ul style="list-style-type: none"> ▶ Promote safe and healthy use of technology resources ▶ Facilitate equitable access to technology resources for all students 	<p>how copyright applies to classroom software use, and what additional safety measures may be needed in the classroom</p>	
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Technology Use Policies

It is recognized that computer software piracy is a major problem for the computer software industry and that violations of computer copyright laws contribute to higher costs while detracting from incentives for the development of good educational technology products. As a result, the development of effective educational uses of technology is affected greatly. The following policies are in full effect within the New Hanover County School System:

USER ACCOUNT
<ul style="list-style-type: none"> ● Each user has a log in...For the most part teachers and students cannot access the desktop or any control panel options. ● There are various types of users. CRTs have full rights and can download and install software. ● Teacher profiles cannot install or download anything. ● Student profiles are even more secure; they cannot access windows explorer or access any email or IM ● They use Web sense as out Internet blocker and only the district CRT (Beth Bruton) can unblock sites
INTERNET SAFETY
<ul style="list-style-type: none"> ● New Hanover County Schools utilizes a technology protection measure that monitors and filters Internet access. The filtering service utilizes a customizable database that denies access to sites that are identified as obscene, pornographic, or harmful to minors. ● Students will not be allowed access to email, chat rooms, and other forms of electronic communication except as related to special projects and only under direct supervision by authorized personnel. Activities must be related to the educational program and determined not to be harmful to minors.
RIGHTS AND RESPONSIBILITY OF USERS
<ul style="list-style-type: none"> ● Acceptable Use - Transmission of any material in violation of any federal or state regulations is prohibited. This includes but is not limited to copyrighted material, threatening or obscene material, or material in violation of New Hanover County Board policies. ● Privileges - The use of the network/Internet is a privilege, not a right, and inappropriate use will result in suspension of that privilege. All user accounts are property of the New Hanover County Schools. School staff or system administrators may deny access at any time that it is deemed necessary. Serious and/or repetitive infractions will be reported to school and district administrators and handled according to school and district student discipline policy (Policy 8410). ● Network Etiquette - While each user has the right to free speech, all are expected to abide by the New Hanover County School Board acceptable Code of Conduct (Policy 8410). The following are specifically not permitted: <ul style="list-style-type: none"> A. Accessing, producing, posting, sending, or displaying material that is offensive in nature. B. Harassing, insulting, or attacking others. C. Knowingly or carelessly performing an act that will interfere with the normal operation of computers, terminals, peripherals, or networks, including vandalism and the creation, upgrading, or disseminating of computer viruses.

D. Violating copyright laws. All communications and information accessible via the network are private property unless otherwise stated.

E. Using another's id or password.

F. Illegally using, destroying, or manipulating data in folders or work files.

G. Intentionally wasting limited resources. This includes distributing mass e-mail messages, participating in chain letters, creating and participating in unauthorized newsgroups, sending large graphic files unrelated to school district operation, and storing files on file servers without proper authorization.

H. Employing the network for commercial purposes.

I. Using the system for political lobbying.

J. Revealing or disseminating personal or family identification information (i.e. name, address, or phone number).

K. Arranging or agreeing to meet with someone you have met on-line.

L. Attempting to gain unauthorized access to the New Hanover County Schools network.

M. Engaging in any illegal activities or accessing material advocating illegal acts or violence. This includes pornography and hate literature.

N. Posting information that could be disruptive, cause damage, or endanger students or staff.

O. Posting false or defamatory information about a person or organization.

P. Downloading files without prior approval from supervising staff.

Q. Accessing chat rooms unless assigned by a teacher/administrator for a valid educational purpose

● Security - Proper procedures for logging on and off the network must be followed. If a security problem is identified, the user must notify a system administrator or staff member; the problem may not be demonstrated to other users. Unauthorized use of accounts is strictly prohibited. Attempts to log on to the network as a computer system administrator will result in immediate cancellation of user privileges. Users who have a history of problems with other computer systems or who have been identified as a security risk for any other reason will be denied access to the network. Unauthorized access, including hacking, is prohibited.

REMOTE ACCESS TO NETWORK

● The computer systems, networks and data repositories are critical resources and must be protected against unauthorized access, malicious access, and disruption of service.

● Authorized users of school computer systems, networks and data repositories may be authorized to remotely connect to those systems, networks and data repositories for the conduct of New Hanover County Schools related business only through secure, authenticated and carefully managed access methods.

Software Copyrights

● The ethical and practical problems caused by software piracy will be taught in the school

● All employees will be expected to adhere to section 117 of the 1996 Copyright Act as amended in 1980, governing the use of software.

● Educators will be expected to read the software documentation's copyright pages and adhere to the licensing restrictions printed there.

● Illegal copies of copyrighted software may not be made or used on school equipment.

● When more than one copy of a program is needed, a lab pack or site licenses will be purchased. It is illegal to load the contents of

one disk into more than one computer at a time unless it is expressly permitted in the purchase agreement.

- A written license agreement will be obtained from the copyright holder before placing software programs on a local area network or disk sharing system.
- the school using licensed software should have a signed copy of the software agreement. When the school purchase software license agreements, the principal or his/her designee is responsible for signing the school's agreement.
- The principal of each school site is responsible for establishing practices which will enforce this policy at the school level.

INFORMATION SECURITY AWARENESS

- Technology through management shall provide regular and relevant information security awareness communications to all staff by various means, such as electronic updates, briefings, and newsletters.
- All employees and contractors shall be provided with information security awareness tools to enhance awareness and to educate them regarding the range of information technology security threats and the appropriate safeguards.
- An employee handbook or summary of information security policies shall be delivered to employees and contractors before they begin work.

Room #	Subject	Pentium				Printer			Scanner	CD Burner	Projector	Comments
		1	2	3	4	HP	Epson	IBM				
602	Principal				1C 1CL	1						HP 820C
603	Vice Principal				1C	1						HP 930C
604	Counselor				1HP	1						HP 930C
605	Deputy			1C			1					Epson 740
607	Social Worker			1C		1						HP 3820
610	Computer Lab			26C 16DL	2HP 1A	2			1- HP Scan Jet 5490C		1 Hitachi 1 Elmo	HP Laser 4000
611			2C	5C	2 C	2			1- HP Scan Jet 5490C			HP Laser 4050; 670C
612					1C 1CL	2	1			1-Iomega		HP Laser Jet, 810C; Epson 777
613	Media AV		2C				1					Epson 740
	Wireless cart Laptops			14D								5 yrs old; 63 MB memory; not configured to server
	Totals	1C	12C	45C 20 DL	23C 1A 7HP 2CL	40	10	1	3	1	2	
	Codes: C = Compaq HP = Hewlett Packer A = Apple DL = Dell Laptop CL = Compaq Laptop											

Software

Software	Network	Human Resources	Facilities
<p>All classrooms:</p> <ul style="list-style-type: none"> • Inspiration • Green Globbs – Graphing Equations • MS Office 2000 • Excel • NCWise • Access • Timeliner • Power Point • World Discovery Deluxe • Publisher • Student Reference Library • Windows movie maker • Acrobat Reader • Multi Media Encyclopedia • Dictionary, thesaurus and encyclopedia • Encarta • SkillsBank • MS Works • Eyewitness History of the World • Occupational Outlook Handbook • Windows Media Player • GroupWise • Star Reader Program • OPAC • Classroom Manager 	<p>Internet access in every classroom and administrative office</p> <p>Dedicated server for faculty, staff and administration only</p> <p>WAN, LAN or Wireless Connectivity</p>	<p>Computer Resource Teacher is responsible for maintaining and servicing equipment.</p> <p>She is able to draw support from the county office if needed.</p>	<p>Two-level, 59,576 sq. ft facility</p> <p>15 Classrooms 1 Computer Lab 1 Media Center 1 Nova Net Lab</p>

Current Use of Technology and Human Resources

The following information regarding current technology and human resources use was submitted by the Lakeside Computer Resources Teacher, Helen Lipka:

Computer Lab

The Lakeside School Computer Lab is designated for the entire school's use. There are no required class rotations scheduled for this facility. Classroom teachers request lessons to be taught by the computer resource teacher, Helen Lipka. Teachers are able to direct their own classes in the computer lab, if desired. The computer lab is also designated for required testing. Please see below for additional details.

- Teachers are able to sign up for the computer lab as needed.
- The lab typically remains booked for use.
 - Since class size is small, there are often 2 classes in the lab at the same time
- The lab only closes for required testing
 - During closed hours, teachers use the one computer in their classroom for projects
- The computer resource teacher delivers classes upon requests from teacher. Some of these classes include:
 - How to Research the Internet
 - Beginning and Advanced PowerPoint
 - Word Processing Skills, Spreadsheet and Database basics for students who have not passed the computer competency test required for graduation
 - Multimedia games such as *Jeopardy*, *Who Wants to be a Millionaire*, and *Hollywood Squares*
 - Data input from tests such as Lightspan

Human Resources

According to Helen Lipka and Karen Greene, Lakeside School teachers are competent in the basic North Carolina computer competencies. Helen provided the following comment: "Some teachers are very tech savvy and incorporate technology daily. Other teachers are still uncomfortable using technology with their students if I am not in the lab to help with issues that may come up." The main technological issue arises when experimenting with new and unfamiliar programs. Some teachers are willing to experiment with new programs while others are not. Please see below for further details regarding Lakeside School Human Resources for computer technology:

The computer resources teacher, "does it all", which includes but is not limited to the following:

- Troubleshooting and fixing network and hardware issues
 - For problems Helen is not able to handle, technical support is available through a county level technician that is assigned for network and hardware problems
- The remainder of her time is dedicated to instruction

- Helen is also designated to train the faculty on new software purchases

Comparison of Existing Resources with Required Resources for Implementation

The goal of the technology change is to improve reading scores through the use of reading and skill improvement software and thereby improve end of grade test scores. By definition *alternative schooling provides potential dropouts a variety of options that can lead to graduation, with programs paying special attention to the student's individual social needs and academic requirements for a high school diploma.* (www.dropoutprevention.org)

Through direct observation and by survey from key New Hanover County personnel, the following conclusions have been developed regarding Lakeside:

- 85% of teachers stated they felt comfortable using computers in their classrooms; however, 90% felt compelled to stay on track and teach to the NC curriculum guidelines for 9th grade
- By direct observation, these same teachers continued to lecture in the traditional style; students have arrived at Lakeside because they failed in the traditional environment. Alternative methods of teaching are required to meet the needs of the students along with an understanding of different learning style of students.
- By direct observation from teachers and the Lakeside reading specialist, a majority of students are unable to read beyond the 5th grade level, with many reading levels as low as 2nd grade.
- By direct observation, student technology skills are limited by their ability to read and understand. However, there are a wide range of capabilities due to different backgrounds. Some children may have home computer systems while others may not. The students without home systems are only exposed to the technology while at school.
- It was also observed that students are more willing and apt to learn through one on one interaction. Group sessions are often challenging and impede student learning.
- Variety of equipment is available as per the current inventory, mostly used from other schools, which also includes nice new textbooks. However, 80% of students have difficulty reading the material and by observation, have often been found “frozen,” staring at a computer screen, totally overwhelmed by the information and words on the screen.
- The technology survey shows that all classrooms have at least one computer and the school has a computer lab; however, direct observation revealed 60% of teachers were not making use of the technology other than using the Internet for research and word processing programs.

Analysis Tools

Performance Outcomes

Current Conditions	Desired Conditions	Data on Which They are Based
Majority of students are not able to read above a 5 th grade level	Students are able to read at grade level	Low passage rate on reading EOG exam; teacher observation of student performance

Curriculum and Instruction

Current Conditions	Desired Conditions	Data on Which They are Based
Teaching style remains “sit and get” lecture	Student engaging in learning process	Direct observation via staff from central office
Technology is not used as a tool for live instruction, assessing student needs and performance	Teachers are using technology to engage students in learning processes	Direct observation

Professional Development

Current Conditions	Desired Conditions	Data on Which They are Based
Teachers are able to use technology, however, unable to integrate technology into instruction	Teachers will integrate technology into their daily instruction to adjust to student needs	Direct observation Analyzing lesson plans

Technology

Current Conditions	Desired Conditions	Data on Which They are Based
Reading software is outdated and not used on a regular basis	Updated, interactive reading software available on every computer	Facility inventory submitted by computer resource teacher
Limited accessories, such as microphones, headphones and speakers	Microphones, headphones and speakers available for each computer	Facility inventory submitted by computer resource teacher
Only one data drop exists per classroom	5 data drops per classroom	Facility inventory submitted by computer resource teacher

Needs Assessment

Needs	Goals
Improve student reading skills	Students read at grade level
Diversify teaching style	Students will actively engage in classroom activities, using technology 80% of the time
Teachers need to use technology to improve learning processes	Teachers will develop learning activities to improve student learning daily
Teachers need to integrate technology into daily curriculum	Teachers will develop lesson plans integrating technology daily
Updated, interactive reading software	Updated, interactive reading software available on all computers
Computer accessories for proper use of reading software	Accessories available on all computers
Increase data drops per classroom	5 data drops per classroom