

Technology Standards for students and teachers

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
1. Basic operations and concepts <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
2. Social, ethical and human issues <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
3. Technology productivity tools <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 works 	<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 learning throughout the curriculum. 	<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 • Provide assistive technology tools for students (individual, small group, classroom, and offsite)
4. Technology communications tools	<ul style="list-style-type: none"> • Design, develop, publish and present 	

<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 	<p>products (e.g. Web pages, videotapes) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom.</p> <ul style="list-style-type: none"> • 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 applications to learning 	

	and problem solving. Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of 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 – Grades 6-8	New Hanover County Technology Plan for Teachers
1. Technology Operations and Concepts <ul style="list-style-type: none"> • Demonstrate introductory knowledge, skills, and understanding of concepts related to technology (as described in the ISTE National Education Technology Standards for Students) • Demonstrate continual growth in technology knowledge and skills to stay abreast of current and emerging technologies 	<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-enhanced learning for students • Expand and integrate technology knowledge and skills to and into current and emerging technologies 	<ul style="list-style-type: none"> • Develop a technology self assessment for productivity tools • Develop a technology self assessment for instructional content
2. Planning and Designing Learning Environment and Experiences <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
3. Teaching, Learning, and the Curriculum <ul style="list-style-type: none"> • Facilitate technology-enhanced experiences that address content standards and student 	<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 	<ul style="list-style-type: none"> • Provide diverse training based on needs identified on self assessment following NCLB standards

<p>technology standards</p> <ul style="list-style-type: none"> • 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 	<p>curriculum and develop learning that address the diverse needs of students</p> <ul style="list-style-type: none"> • 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 discipline 	<ul style="list-style-type: none"> • 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 	<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 that 	<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 	<ul style="list-style-type: none"> • Provide training and guidelines on ethical and professional standards of technology use

<p>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>pertaining to computer use, such as how copyright applies to classroom software use, and what additional safety measures may be needed in the classroom</p>	
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Technology Support Policies

In a longitudinal analysis of student achievement in the Tennessee school system, Wright, Horn, and Sanders (1997) found that effective teachers had the most significant impact on student achievement as determined by standardized tests. Furthermore, the states that continue to have the highest student test scores in mathematics and reading are states that have made the most substantial investment in creating and retaining the most highly qualified teacher workshop (Darling-Hammond, 1999). Thus, it is necessary to be informed about policies for teachers in technology plans. In terms of the North Carolina Educational Technology Plan (2005-2009), technology support policies for teachers related to our technology change plan go as follows:

<p>NC for Teachers</p>	<p>New Hanover County School for Teachers</p>
<p>1. A variety of professional development opportunities</p> <ul style="list-style-type: none"> • On-site professional development through the services of teachers-on-loan • NCwin, an online technology staff development resource • Intel Teach to the Future Workshops • NC Classes Online • Conference presentations • NCWISE training 	<ul style="list-style-type: none"> • Kaleidoscope • NCWiseOwl • Intel Innovation • LEARN NC • eBISTRO • NCWISE training • 10 hours of hands-on technology staff development per certificate renewal cycle
<p>2. Guidance and standards for personal and program</p> <ul style="list-style-type: none"> • Performance appraisal instruments for media and technology personnel: MCPAI/TFPAI • Standards and criteria for media and technology certifications • Classroom observation protocol (Pilot) • IMPACT: Guidelines for Media and Technology Programs • INPACT for Teachers • Criteria for evaluation of online professional development • Job descriptions for media and technology personnel • ISTE NETS Standards for teacher technology competencies • Promote the use of media and technology performance appraisal instruments. • Maintain and develop staff development opportunities for all educators. • Identify and promote copyright workshop opportunities to NC educators 	<ul style="list-style-type: none"> • Goalview • Schoollink • eProcurement • TACS (Employee time sheets) • e-mail • Intranet • All attendees are evaluated through an evaluation form by email • Specialized software and hardware training and follow-up support