

Department of College and Career Readiness

Applied Technology I

Curriculum

5.0 Credits



Unit 3

Applied Technology I

Course Description

Our Applied Technology pathway is based on the same curriculum that is being taught at the college level, allowing students who meet the criteria to enroll as part of the dual enrollment program with PCCC. ALL students in either the standard or dual enrollment programs, who complete the 10th & 11th grade pathways are eligible to sit for the COMTIA A+ certification exam. This program is designed for students in 11th grade.

Information Technology Fundamentals and Applications- This course provides IT students with an introduction to information technology fundamentals encompassing both hardware and software. An emphasis is placed on the system unit components, peripheral devices, and systems and applications software. Topics include CPU, RAM, machine cycle, data representations, number systems, operating system characteristics, utility programs, language translators, communication devices, media and networks. Students learn how to: efficiently search the Internet for information, use Microsoft Windows, and use Microsoft productivity software.

Software and hardware maintenance and diagnostics- This course provides students with the knowledge and skills necessary to install, troubleshoot, and upgrade software and hardware components, and to maintain and replace parts for PCs. Students learn how to properly handle system components, use hardware and software diagnostic tools to troubleshoot problems, and fix or replace the failed components. Proper techniques to assemble and disassemble a microcomputer system are also covered. Successful completion of this course prepares students to take the CompTIA (Computing Technology Industrial Association) A+ certification exam and Microsoft Technology Associate (MTA) exam.

This course will build upon students' existing user-level knowledge and experience with personal computer software and hardware in order to present fundamental concepts and techniques that technicians will use every day on the job. Upon completing this course, students will gain the essential skills and technical expertise necessary to install, upgrade, configure, troubleshoot, optimize, repair and perform preventative maintenance on basic personal computer hardware and operating systems.

This course provides students with the basic knowledge and skills necessary for a career in PC support. The course is designed to fully prepare students to sit for and pass the CompTIA A+ 220-901 and 220-902 certification exams. The exam covers a broad range of hardware and software technologies that is not tied to any specific vendor products. Examinees must successfully complete 2 parts for the exam – Essentials and Practical Applications modules. Provided both modules are passed within a 90 day period, successful candidates will receive CompTIA A+ Certification. Course topics include installation, configuration, preventative maintenance of PC hardware components, and the basics of networking, security, virtualization, desktop imaging, and deployment. Students will also gain knowledge of diagnostic and troubleshooting processes for various types of technical issues.

**** it should be noted that students who do not successfully complete classes 107 and 116 cannot go on to classes 160 & 180 as part of the dual enrollment program.***

Applied Technology I

Pacing Guide		
Unit	Topic	Suggested Timing
Unit 1	Information Technology and the IT Professional	approx. 7 weeks
Unit 2	The PC and its Peripherals	approx. 10 weeks
Unit 3	Mobile Devices, Networking and Security	approx. 8 weeks
Unit 4	System Implementation and Maintenance	approx. 10 weeks

Educational Technology Standards

8.1.12.A.1, 8.1.12.A.3, , 8.1.12.B.2, 8.1.12.C.1, 8.1.12.D.2, 8.2.12.A.2, 8.2.12.B.2, 8.2.12.C.3

➤ **Technology Operations and Concepts**

- Create a personal digital portfolio which reflects personal and academic interests, achievements, and career aspirations by using a variety of digital tools and resources.
Collaborate in online courses, learning communities, social networks or virtual worlds to discuss a resolution to a problem or issue.

➤ **Creativity and Innovation**

Apply previous content knowledge by creating and piloting a digital learning game or tutorial

➤ **Communication and Collaboration**

- Develop an innovative solution to a real world problem or issue in collaboration with peers and experts, and present ideas for feedback through social media or in an online community.

➤ **Digital Citizenship**

- Demonstrate appropriate application of copyright, fair use and/or Creative Commons to an original work.
- Evaluate consequences of unauthorized electronic access (e.g. hacking)

➤ **Critical Thinking, Problem Solving, Decision Making**

- Evaluate the strengths and limitations of emerging technologies and their impact on educational, career, personal and or social needs.

Career Ready Practices

Career Ready Practices describe the career-ready skills that all educators in all content areas should seek to develop in their students. They are practices that have been linked to increase college, career, and life success. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

CRP1. Act as a responsible and contributing citizen and employee

Career-ready individuals understand the obligations and responsibilities of being a member of a community, and they demonstrate this understanding every day through their interactions with others. They are conscientious of the impacts of their decisions on others and the environment around them. They think about the near-term and long-term consequences of their actions and seek to act in ways that contribute to the betterment of their teams, families, community and workplace. They are reliable and consistent in going beyond the minimum expectation and in participating in activities that serve the greater good.

CRP2. Apply appropriate academic and technical skills.

Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive. They make connections between abstract concepts with real-world applications, and they make correct insights about when it is appropriate to apply the use of an academic skill in a workplace situation.

CRP3. Attend to personal health and financial well-being.

Career-ready individuals understand the relationship between personal health, workplace performance and personal well-being; they act on that understanding to regularly practice healthy diet, exercise and mental health activities. Career-ready individuals also take regular action to contribute to their personal financial well-being, understanding that personal financial security provides the peace of mind required to contribute more fully to their own career success.

CRP4. Communicate clearly and effectively and with reason.

Career-ready individuals communicate thoughts, ideas, and action plans with clarity, whether using written, verbal, and/or visual methods. They communicate in the workplace with clarity and purpose to make maximum use of their own and others' time. They are excellent writers; they master conventions, word choice, and organization, and use effective tone and presentation skills to articulate ideas. They are skilled at interacting with others; they are active listeners and speak clearly and with purpose. Career-ready individuals think about the audience for their communication and prepare accordingly to ensure the desired outcome.

Career Ready Practices

CRP5. Consider the environmental, social and economic impacts of decisions.

Career-ready individuals understand the interrelated nature of their actions and regularly make decisions that positively impact and/or mitigate negative impact on other people, organization, and the environment. They are aware of and utilize new technologies, understandings, procedures, materials, and regulations affecting the nature of their work as it relates to the impact on the social condition, the environment and the profitability of the organization.

CRP6. Demonstrate creativity and innovation.

Career-ready individuals regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization. They can consider unconventional ideas and suggestions as solutions to issues, tasks or problems, and they discern which ideas and suggestions will add greatest value. They seek new methods, practices, and ideas from a variety of sources and seek to apply those ideas to their own workplace. They take action on their ideas and understand how to bring innovation to an organization.

CRP7. Employ valid and reliable research strategies.

Career-ready individuals are discerning in accepting and using new information to make decisions, change practices or inform strategies. They use reliable research process to search for new information. They evaluate the validity of sources when considering the use and adoption of external information or practices in their workplace situation.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

Career-ready individuals readily recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem. They are aware of problems when they occur and take action quickly to address the problem; they thoughtfully investigate the root cause of the problem prior to introducing solutions. They carefully consider the options to solve the problem. Once a solution is agreed upon, they follow through to ensure the problem is solved, whether through their own actions or the actions of others.

CRP9. Model integrity, ethical leadership and effective management.

Career-ready individuals consistently act in ways that align personal and community-held ideals and principles while employing strategies to positively influence others in the workplace. They have a clear understanding of integrity and act on this understanding in every decision. They use a variety of means to positively impact the directions and actions of a team or organization, and they

Career Ready Practices

apply insights into human behavior to change others' action, attitudes and/or beliefs. They recognize the near-term and long-term effects that management's actions and attitudes can have on productivity, morals and organizational culture.

CRP10. Plan education and career paths aligned to personal goals.

Career-ready individuals take personal ownership of their own education and career goals, and they regularly act on a plan to attain these goals. They understand their own career interests, preferences, goals, and requirements. They have perspective regarding the pathways available to them and the time, effort, experience and other requirements to pursue each, including a path of entrepreneurship. They recognize the value of each step in the education and experiential process, and they recognize that nearly all career paths require ongoing education and experience. They seek counselors, mentors, and other experts to assist in the planning and execution of career and personal goals.

CRP11. Use technology to enhance productivity.

Career-ready individuals find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring new technology. They are proficient with ubiquitous technology applications. They understand the inherent risks-personal and organizational-of technology applications, and they take actions to prevent or mitigate these risks.

CRP12. Work productively in teams while using cultural global competence.

Career-ready individuals positively contribute to every team, whether formal or informal. They apply an awareness of cultural difference to avoid barriers to productive and positive interaction. They find ways to increase the engagement and contribution of all team members. They plan and facilitate effective team meetings.

Differentiated Instruction

Strategies to Accommodate Students Based on Individual Needs

<u>Time/General</u>	<u>Processing</u>	<u>Comprehension</u>	<u>Recall</u>
<ul style="list-style-type: none"> • Extra time for assigned tasks • Adjust length of assignment • Timeline with due dates for reports and projects • Communication system between home and school • Provide lecture notes/outline/copies of slides 	<ul style="list-style-type: none"> • Extra Response time • Have students verbalize steps • Repeat, clarify or reword directions • Mini-breaks between tasks • Provide a warning for transitions • Reading partners 	<ul style="list-style-type: none"> • Precise step-by-step directions • Short manageable tasks • Brief and concrete directions • Provide immediate feedback • Small group instruction • Emphasize multi-sensory learning 	<ul style="list-style-type: none"> • Teacher-made checklist • Use visual graphic organizers • Reference resources to promote independence • Visual and verbal reminders • Online or hardcopy study cards for practice
<u>Assistive Technology</u>	<u>Tests/Quizzes/Grading</u>	<u>Behavior/Attention</u>	<u>Organization</u>
<ul style="list-style-type: none"> • Computer/whiteboard • iPad/Kindle • Spell-checker • Online videos 	<ul style="list-style-type: none"> • Extended time • Study guides • Shortened tests • Read directions aloud 	<ul style="list-style-type: none"> • Consistent daily structured routine • Simple and clear classroom rules • Frequent feedback 	<ul style="list-style-type: none"> • Individual daily planner • Display a written agenda • Note-taking assistance • Color code materials

Enrichment

Strategies Used to Accommodate Based on Students Individual Needs:

- Adaption of Material and Requirements
- Evaluate Vocabulary
- Elevated Text Complexity
- Additional Projects
- Independent Student Options
- Projects completed individual or with Partners
- Self Selection of Research
- Tiered/Multilevel Activities
- Learning Centers
- Individual Response Board
- Independent Book Studies
- Open-ended activities
- Community/Subject expert mentorships

Assessments

Suggested Formative/Summative Classroom Assessments

- Timelines, Charts, Graphic Organizers
- Teacher-created Unit Assessments, Chapter Assessments, Quizzes
- Teacher-created DBQs, Essays, Short Answer
- Accountable Talk, Debate, Oral Report, Role Playing, Think Pair, and Share
- Projects, Portfolio, Presentations, Prezi, Gallery Walks
- Homework
- Concept Mapping
- Primary and Secondary Source analysis
- Install wireless network card
- Set mobile device for power savings mode
- Research possible careers for cyber experts
- Setup a home wireless network

Interdisciplinary Connections

English Language Arts

- Question the accuracy and relevance of information
- Incorporate a variety of visual aids in publication
- Build vocabulary by reading a variety of grade-level texts and apply new vocabulary
- Keep a running word wall of industry vocabulary

Social Studies

- Research the history of a given industry/profession
- Research prominent historical individuals in a given industry/profession
- Understand how key events, people and ideas contributed to United States History

World Language

- Translate industry-content
- Create a translated index of industry vocabulary
- Generate a translated list of words and phrases related to workplace safety
- Learn the language of technology as the universal language

Math

- Interpret a graphical representation of a real-world situation
- Convert from binary to digital
- Track and track various data, such as industry's impact on the GDP, career opportunities or among of individuals currently occupying careers

Fine & Performing Arts

- Create a poster recruiting young people to focus their studies on a specific career or industry
- Design a flag or logo to represent a given career field

Science

- Identify ways in which technology has influenced the course of history and improved the quality of life
- Research latest developments in industry technology
- Explain how designing and implementing technology requires weighing trade-offs between positive and negative impacts on humans and the environment
- Investigate applicable-careers in STEM fields

New Jersey Student Learning Standards 9-12

8.1–Educational Technology

- 8.1.12.A.2: Produce and edit a multi-page digital document for a commercial or professional audience and present it to peers and/or professionals in that related area for review.
- 8.1.12.A.3: Collaborate in online courses, learning communities, social networks or virtual worlds to discuss a resolution to a problem or issue.
- 8.1.12.B.2 Apply previous content knowledge by creating and piloting a digital learning game or tutorial.
- 8.1.12.C.1: Develop an innovative solution to a real world problem or issue in collaboration with peers and experts, and present ideas for feedback through social media or in an online community.
- 8.1.12.D.1 Demonstrate appropriate application of copyright, fair use and/or Creative Commons to a original work.
- 8.1.12.D.2 Evaluate consequences of unauthorized electronic access (e.g., hacking)
- 8.1.12.D.4 Research and understand the positive and negative impact of one’s digital footprint
- 8.1.12.D.5 Analyze the capabilities and limitations of current and emerging technology resources and assess their potential to address personal, social, lifelong learning, and career needs.
- 8.1.12.E.2: Research and evaluate the impact on society of the unethical use of digital tools and present your research to peers.
- 8.1.12.F.1: Evaluate the strengths and limitations of emerging technologies and their impact on educational, career, personal and or social needs.

8.2–Technology Education, Engineering, Design, and Computational Thinking-Programming

- 8.2.12.A.2 Analyze a current technology and the resources used, identify to identify trade-offs in terms of availability, cost, desirability and waste
- 8.2.12.B.2: Evaluate ethical considerations regarding the sustainability of environmental resources that are used for the design, creation and maintenance of a chosen product.

- 8.2.12.B.3 Analyze ethical and unethical practices around intellectual property rights as influenced by human wants and/or needs.
- 8.2.12.C.2 Analyze a product and how it has changed or might change over time to meet human needs and wants.
- 8.2.12.C.3: Analyze a product or system for factors such as safety, reliability, economic considerations, quality control, environmental concerns, manufacturability, maintenance and repair, and human factors, engineering (ergonomics).
- 8.2.12.E.2: Analyze the relationship between internal and external computer components.
- 8.1.12.E.4 Use appropriate terms in conversation (e.g., troubleshooting, peripherals, diagnostic software, GUI, abstraction, variables, data types and conditional statements)

Common Core State Standards (CCSS)

CCSS - English-Language Arts

Key Ideas and Details:

- CCSS.ELA-LITERACY.RL.11-12.1 Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
- CCSS.ELA-LITERACY.RL.11-12.2 Determine two or more central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to provide a complex analysis; provide an objective summary of the text.

Integration of Knowledge and Ideas:

- CCSS.ELA-LITERACY.W.11-12.7 Integrate and evaluate multiple sources of information presented in different media or formats (e.g. visually, quantitatively) as well as in words in order to address a question or solve a problem.

Text Types and Purposes:

- CCSS.ELA-LITERACY.W.11-12.1 Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
- CCSS.ELA-LITERACY.W.11-12.1B Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases.
- CCSS.ELA-LITERACY.W.11-12.1B Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
- CCSS.ELA-LITERACY.W.11-12.4
- CCSS.ELA-LITERACY.SL.11-12.6 Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.

Comprehension and Collaboration:

- CCSS.ELA-LITERACY.SL.11-12.1.A Come to discussion prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.

Comprehension and Collaboration:

- CCSS.ELA-LITERACY.SL.11-12.5 Make strategic use of digital media in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

Common Core State Standards (CCSS)

CCSS - Mathematics

Create equations that describe numbers or relationships:

- CCSS.MATH.CONTENT.HSA.CED.A.2 Create equations in two or more variables to represent relations between quantities; graph equations on coordinate axes with labels and scales.

<p>Course: Applied Technology I</p> <p>Unit: 3- Mobile Devices, Networking and Security</p> <p>Grade Level: 9-12</p>	<p>Unit Overview: As the era of technology continues, communications devices have continued to become smaller, lighter and more mobile. The Smartphone of today is more powerful than a supercomputing system of a short time ago. In addition to mobility, computer technicians now must have expertise in networking, allowing devices to communicate with one another and network security, keeping data from being “stolen” via cybercrime as well as loss of physical hardware devices.</p>
<p>New Jersey Student Learning Standards (NJSLS): 8.1.12.A.2, 8.1.12.A.3, , 8.1.12.B.2, 8.1.12.C.1, 8.1.12.D.1, 8.1.12.D.2, 8.1.12.D.4, 8.1.12.D.5, 8.1.12.E.2, 8.1.12.F.1, 8.2.12.A.2, 8.2.12.B.2, 8.2.12.B.3, 8.2.12.D.4, 8.2.12.E.4</p>	
<p>Common Core State Standards (CCSS): RL.11-12.1; RL.11-12.2, RL.11-12.7; W.11-12.1, W.11-12.1B, W.11-12.2B, SL 11-12.6, SL 11-12.1.A, SL 11-12.5 HSN.Q.A.1, HSN.Q.A.3</p>	

Student Learning Objectives (SLOs)	Essential Questions	Skills & Indicators	Sample Activities	Resources
<p>Students will become proficient at installing and maintaining a computer network.</p> <p>NJSLS : 8.1.12.A.3, 8.1.12.B.2, 8.2.12.A.2, 8.2.12.E.2</p> <p>CCSS: W.11-12.1.B W.11-12.4</p>	<ul style="list-style-type: none"> ▪ What is a computer network and why is it useful? ▪ How do you choose which network topology is a best fit for a given environment? ▪ When would you install a wired network vs. a wireless network? ▪ How do you choose an internet provider? ▪ Is a networked 	<ul style="list-style-type: none"> ▪ Enable and disable power management in CMOS ▪ Change power management settings in Windows 	<ul style="list-style-type: none"> ▪ Install the device drivers and configuration for a LAN printer. ▪ Research Arpanet and how it has affected our everyday lives ▪ Research your local internet providers and create a chart of speeds, functions and costs of each system ▪ Work in teams and create a presentation 	<p>Mike Meyers All in One CompTIA A+ Portable computing, Local Area Networking & Wireless networking-McGraw Hill</p> <p>CompTIA A+ Certification EXAM Guide Network basics & The physical Network – ILT Series</p> <p>General Introduction Pearson- Technology in Action</p>

Student Learning Objectives (SLOs)	Essential Questions	Skills & Indicators	Sample Activities	Resources
	<p>computer safe?</p> <ul style="list-style-type: none"> ▪ How has the internet affected medical care? 		<p>on the changes in healthcare due to the Internet. Students may be given different aspects of medicine to investigate.</p> <ul style="list-style-type: none"> ▪ Survey students on their internet use and security concerns. 	<p>The ARPANET and Computer Networks https://www.youtube.com/watch?v=qkD4HVRnGJE</p> <p>Introduction to Computers- The Basics http://literacy.kent.edu/Midwest/Materials/ndakota/complit/introbasics.html</p> <p>Choosing Security Software https://www.youtube.com/watch?v=BaD9wSV33eQ</p> <p>Digitizing Healthcare: How Technology Is Improving Medical Care http://online.king.edu/healthcare/digitizing-healthcare-how-technology-is-improving-</p>

Student Learning Objectives (SLOs)	Essential Questions	Skills & Indicators	Sample Activities	Resources
				<p>medical-care/</p> <p>The Doctor Will See You Now: How the Internet and Social Media are Changing Healthcare http://www.digitaltrends.com/social-media/the-internet-and-healthcare/#:r21_4d3f0zMxfA</p> <p>So, Who Owns the Internet? http://news.harvard.edu/gazette/story/2014/01/so-who-owns-the-internet/</p> <p>Terms and Conditions May Apply https://vimeo.com/ondemand/tacma</p>
<p>Students will become proficient at getting network systems onto the Internet as well as setting up systems for</p>	<ul style="list-style-type: none"> • What do networks look like and how do they work? • What sorts of 	<ul style="list-style-type: none"> ▪ Recognize where processes are running in a networked 	<ul style="list-style-type: none"> ▪ Analyze the characteristics of networks used to select the optimum 	<p>Mike Meyers All in One CompTIA A+ / Local Area Networks, The Internet -McGraw Hill</p>

Student Learning Objectives (SLOs)	Essential Questions	Skills & Indicators	Sample Activities	Resources
<p>determining which sites may or may not be accessed.</p> <p>NJSLS: 8.1.12.A.2 8.1.12.A.3 8.2.12.B.3 8.1.12.C.1 8.1.12.D.1 8.1.12.D.2 8.1.12.E.2,</p> <p>CCSS: RL.11-12-1 RL.11-12.7 W.11-12.1.B W.11-12.2B W.11-12.6</p>	<p>(hardware and software) tools are required to build a network?</p> <ul style="list-style-type: none"> • What are hubs, switches, routers and how do they work? • Is stealing software “really” stealing? 	<p>environment (client vs. remote access)</p> <ul style="list-style-type: none"> ▪ Use security software and hardware to protect systems from potential threats such as malware & computer hacking attacks ▪ Evaluate support needs for different data and system configurations • Differentiate among digital , analog, and input and output electronics theory • Verify software is properly licensed prior to installation 	<p>configuration for an industry solution</p> <ul style="list-style-type: none"> ▪ Debate the ethics; is copying really a form of stealing? ▪ Interpret technical documentation such as schematics, drawings, charts, diagrams, technical manuals and bulletins 	<p>CompTIA A+ Certification EXAM Guide/Notebooks, Networking protocols – ILT Series</p> <p>Mobile hacking https://www.cybrary.it/video/mobile-hacking-whiteboard/</p> <p>Networking https://www.cybrary.it/video/network-administration-principles/</p> <p>How to Protect Your Computer- https://www.fbi.gov/scams-safety/computer_protect</p> <p>Is Copying Really a Form of Stealing? https://prezi.com/fjinetvs0z_t/is-copying-software-really-a-form-of-stealing/</p>

Student Learning Objectives (SLOs)	Essential Questions	Skills & Indicators	Sample Activities	Resources
				<p>In Less Than Two Years, a Smartphone Could Be Your Only Computer http://www.wired.com/2015/02/smartphone-only-computer/</p> <p>Mike Meyers All in One CompTIA A+ / Mobile Devices, Securing PC's - McGraw Hill</p> <p>CYBRARY CompTIA A+ online video training Mobile device Synchronization https://www.cybrary.it/video/mobile-device-synchronization/</p>
<p>Students will gain a complete understanding of using multiple mobile</p>	<ul style="list-style-type: none"> ▪ How can I use home networking to share resources, 	<ul style="list-style-type: none"> • Setup and configure a wireless router. ▪ Explain the features of 	<ul style="list-style-type: none"> ▪ Replace the screen on a Smartphone ▪ Create a presentation 	<p>Top 10 Smartphones 2016 https://www.youtube.co</p>

Student Learning Objectives (SLOs)	Essential Questions	Skills & Indicators	Sample Activities	Resources
<p>systems such as laptops, tablets and Smart phones as mobile internet devices.</p> <p>NJCCS: 8.1.12.A.3, 8.1.12.B.2 8.1.12.D.4 8.1.12.D.5 8.1.12.F.1</p> <p>CCSS: RL.11-12.3 RL.11-12.7 W.11-12.2 W.11-12.4 W.11-12.6 HSA.CED.A.2</p>	<p>such as an Internet connection, media and data, and other resources?</p> <ul style="list-style-type: none"> ▪ How can mobile devices be adjusted to maintain power when away from a streaming power source? ▪ Appraise mobile devices and determine which is best for client use. ▪ Will mobile devices soon replace the PC? ▪ Would Smartphones be as popular if so many applications were not free? ▪ Which is better the closed source Apple or the open sourced Android? 	<p>Smartphones and tablets</p> <ul style="list-style-type: none"> ▪ Explain how to configure mobile devices ▪ Describe how to secure mobile devices ▪ Add an selected application to a Smartphone • 	<p>on how to secure a mobile device.</p> <ul style="list-style-type: none"> ▪ How has the cloud changed device security? ▪ Compare three different types of portable devices and create a cost benefit analysis report based on the requirements of the user of the mobile products 	<p>m/watch?v=taKU-ZUbuEI</p> <p>Security to go http://www.pcworld.com/article/2052810/security-to-go-three-tips-to-keep-your-mobile-data-safe.html</p> <p>Securing Sensitive Data on a Mobile Device https://www.youtube.com/watch?v=au3cMmbP HHg</p> <p>Apple Computers Are Getting Hit With This Virus for the First Time http://time.com/4249413/apple-mac-ransomware-hack/</p> <p>Apple's fight with the FBI could lead to a password arms race. http://www.computerworld.com/article/3035538/m</p>

Student Learning Objectives (SLOs)	Essential Questions	Skills & Indicators	Sample Activities	Resources
				<p>obile-security/apples-fight-with-the-fbi-could-lead-to-a-password-arms-race.html</p>
<p>Students will become knowledgeable in methods used to secure networks, users and data</p> <p>NJSLS: 8.1.12.A.3, 8.1.12.B.2 8.1.12.D.1 8.1.12.D.2 8.1.12.E.2 8.2.12.B.2 8.2.12.E.4</p> <p>CCSS: RL.11-12.1 RL.11-12.3 W.11-12.1E W.11-12.2.F W.11-12.6 W.11-12.8 SL.11-12.5</p>	<ul style="list-style-type: none"> • What are the security implications of setting up a wired or wireless home network? • How can I transfer what I know to new technological situations and experiences? • What are my responsibilities for using technology? • Should the Govt. have access to your computer/Smartphone passwords? 	<ul style="list-style-type: none"> • Set up a firewall based on an ACL list • Define the purposes of a router • Describe the pros and cons of using content filtering software • What are the network function tests performed with a cable testing device? • List 3 methods of internet/network security and when each is used. 	<ul style="list-style-type: none"> ▪ Write a position paper about the government's use of internet surveillance to spy on U.S. citizens. ▪ Watch two movies about cybercrime, The Net (1995) and Blackhat (2015) and have students compare the technology and security issues that have changed in the past 20 years. ▪ Create an electronic timeline of the progress in computing over the past 25 years. 	<p>All in One CompTIA A+/ The visible Network & The Internet- Mike Myers McGraw-Hill</p> <p>Certification EXAM Guide – ILT Series</p> <p>CYBRARY CompTIA A+ / FBI & Cyber Crime https://www.fbi.gov/about-us/investigate/cyber</p> <p>10 Surprising Cyber Security Facts That May Affect Your Online Safety https://heimdalsecurity.com/blog/10-surprising-cyber-security-facts-that-may-affect-your-online-</p>

Student Learning Objectives (SLOs)	Essential Questions	Skills & Indicators	Sample Activities	Resources
				<p>safety/</p> <p>Apple’s fight with the FBI could lead to a password arms race. http://www.computerworld.com/article/3035538/mobile-security/apples-fight-with-the-fbi-could-lead-to-a-password-arms-race.html</p>

Unit 3 Vocabulary

Connection
 Packet
 Network Interface
 LAN
 WAN
 Protocol
 Port
 Firewall
 NAT
 VPN
 Network Layers
 TCP/IP
 Interfaces
 Protocols
 HTTP
 FTP
 jail breaking

Coherence
 Synchronization
 Screen Sharing
 Device Shifting
 Complementary
 Simultaneity
 outsourcing
 streaming video
 authentication
 BYOD
 virtualization
 cloud computing

Suggested Unit Projects

Choose At Least One

<p>Create a presentation using video and graphics to discuss the social implications of cyber security and personal privacy.</p> <p>Write a report Edward Snowden. Was he right or wrong in what he did?</p>	<p>Distracted driving – Create an ad about distracted driving and how to prevent students from texting while driving</p>
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Suggested Structured Learning Experiences

<p>Visit the Museum of Moving Images and download the mobile app to get more information through mobile technology 36-01 35 Avenue (36/37th Streets) Astoria, NY 11106</p> <p>Data Device Manufacturer Data Device Corporation 105 Wilbur Place Bohemia, NY 11716 (631) 567-5600 (800) DDC-5757</p>	<p>Visit the FBI office in Newark to discuss Cyber security and careers with the FBI</p> <p>Claremont Tower 11 Centre Place Newark, NJ 07102 Phone: (973) 792-3000 Fax: (973) 792-3035</p>
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