Wallenpaupack Area School District
Planned Course Curriculum Guide

Department

Business, Computers, and Information Technology (BCIT)

Name of Course

Intro to Computers and IT

Course Description: This introductory course will highlight the skills necessary to manage the hardware and software components of a computer system. Students will learn the foundations of computer programming, networking, and components of graphic design. This course will provide students with basic knowledge to continue in the Computer and Information Technology Pathway.

Initial Creation Date (if applicable) and Revision Dates: April 2024

Wallenpaupack Area School District Curriculum	
COURSE: Intro to Computers and IT	**GRADE/S:** 9 – 12
UNIT 1: Hardware and Software	**TIMEFRAME:** 10 Blocks

PA COMMON CORE/NATIONAL STANDARDS:

- 14.4.12.A. – Apply the creative and productive use of emerging technologies for educational and personal success.
- 15.4.12.C. – Develop criteria for analyzing hardware options to meet defined needs.
- 15.4.12.D. – Evaluate emerging input technologies.
- 15.4.12.E. – Analyze the different operating systems and recommend the appropriate system for specific user needs.

UNIT OBJECTIVES (SWBATS):

- Summarize the history of computers and how IT is used in society
- Define what makes an electronic device a computer
- Identify the parts of a computer and what they do
- Convert between base ten and binary
- Compare different types of software and their capabilities
- Compare and contrast different operating systems
- Devise a plan to troubleshoot a technology problem

INSTRUCTIONAL STRATEGIES/ACTIVITIES:

- Direct Instruction
- Class Discussions
- Independent and Partner Work

ASSESSMENTS (Diagnostic/Benchmark/Formative/Summative):

- In-Class Assignments
- Projects (Independent and Group) with Rubrics
- Vocabulary Quiz

DIFFERENTIATED INSTRUCTION (Acceleration/Enrichment):

- Extensions of the assignments and projects to allow accelerated students to go more in-depth on any of the topics in this unit that they are most interested in. Ideas include: working with the physical components of a computer or related hardware, evaluating different softwares, or researching the current events in information technology and making predictions about the future of IT.

RESOURCES (Technology Based Resources, Text Resources, etc.):

- OneNote
- Teacher Created Material
- Quizlet, Quizizz

KEY VOCABULARY: Hard Drive, RAM, Software, Hardware, Operating System, USB Flash Drive, CPU, Monitor, Desktop Computer, Cloud Storage, Laptop, Wi-Fi, USB, Virus, SD Card, Server, Motherboard, Microchip, Router, Mouse, Binary, Bit, Byte, Troubleshooting

Wallenpaupack Area School District Curriculum	
COURSE: Intro to Computers IT	**GRADE/S:** 9 – 12
UNIT 2: Networking and Cybersecurity	**TIMEFRAME:** 10 Blocks

PA COMMON CORE/NATIONAL STANDARDS:

- 15.4.2.F. - Compare and contrast network environments, including the function of network devices and connectivity issues.
- 15.4.2.G. - Create an advanced digital project using sophisticated design and appropriate software/applications.

UNIT OBJECTIVES (SWBATS):

- Identify the different types of network topologies
- Draw diagrams of the different network topologies
- Evaluate the type of topology to use in different scenarios and justify their choices
- Understand the key concepts of cybersecurity
- Identify methods to prevent being the victim of a cybersecurity attack
- Create a cybersecurity campaign for a given topic

INSTRUCTIONAL STRATEGIES/ACTIVITIES:

- Direct Instruction
- Class Discussions
- Independent and Partner Work

ASSESSMENTS (Diagnostic/Benchmark/Formative/Summative):

- In-Class Assignments
- Projects (Independent and Group) with Rubrics
- Vocabulary Quiz

DIFFERENTIATED INSTRUCTION (Acceleration/Enrichment):

- Extensions of the assignments and projects to allow accelerated students to go more in-depth on any of the topics in this unit that they are most interested in. Ideas include: talking with our IT department about the networking in the school, creating a cybersecurity campaign for the community/school, and project collaboration with students who have taken the full credit Networking course.

RESOURCES (Technology Based Resources, Text Resources, etc.):

- OneNote
- Teacher Created Material
- Canva
- Quizlet, Quizizz

KEY VOCABULARY: Network, Network Topologies (Bus, Star, Mesh, Hybrid), Ethernet, Wired Network, Wireless Network, IP Address, MAC Address, Protocols (TCP/IP, HTTP, HTTPS, FTP, SMTP, IMAP, POP),

Cybersecurity, Malware, Ransomware, Phishing, Antivirus Software, Two-Factor Authentication, Encryption, Passwords

Wallenpaupack Area School District Curriculum	
COURSE: Intro to Computers and IT	**GRADE/S:** 9 - 12
UNIT 3: Computer Programming and Web Design	**TIMEFRAME:** 10 Blocks

PA COMMON CORE/NATIONAL STANDARDS:

- 15.4.12.H. - Use programming languages to develop logical thinking and problem solving skills.
- 15.4.8.I. - Compare and contrast programming languages; select most appropriate one to complete a specific task.
- 15.4.12.G. - Create an advanced digital project using sophisticated design and appropriate software/applications.

UNIT OBJECTIVES (SWBATS):

- Identify the different programming languages and where they are used
- Write basic codes using Python
- Create a plan for a website
- Develop a website from a plan using a website building software

INSTRUCTIONAL STRATEGIES/ACTIVITIES:

- Direct Instruction
- Class Discussions
- Independent and Partner Work

ASSESSMENTS (Diagnostic/Benchmark/Formative/Summative):

- In-Class Assignments
- Basic programs to complete a desired outcome
- Completed website – Assessed using a Rubric

DIFFERENTIATED INSTRUCTION (Acceleration/Enrichment):

- Students will be able to work at their own pace on the computer programming, allowing students to go more in depth with the Python language and created more complex programs.

RESOURCES (Technology Based Resources, Text Resources, etc.):

- OneNote
- Codecademy
- Website Builder (Wix, WordPress, SharePoint)
- Teacher Created Materials

KEY VOCABULARY: Programming Languages, Compiler, Web Address, Parts of a Business Website (Home Page, Contact Us, Testimonials, Products & Services, and About Us)

Wallenpaupack Area School District Curriculum	
COURSE: Intro to Computers and IT	**GRADE/S:** 9 – 12
UNIT 4: Intro to Graphic Design	**TIMEFRAME:** 10 Blocks

PA COMMON CORE/NATIONAL STANDARDS:

- 15.4.12.G. - Create an advanced digital project using sophisticated design and appropriate software/applications.
- 15.4.12.K. - Evaluate advanced multimedia work products and make recommendations based on the evaluation.

UNIT OBJECTIVES (SWBATS):

- Define graphic design
- Create basic projects using Adobe Photoshop and Illustrator
- Compare and contrast the Adobe softwares and Canva

INSTRUCTIONAL STRATEGIES/ACTIVITIES:

- Direct Instruction
- Independent Work

ASSESSMENTS (Diagnostic/Benchmark/Formative/Summative):

- Projects using Adobe Photoshop and Illustrator
- Projects using Canva

DIFFERENTIATED INSTRUCTION (Acceleration/Enrichment):

- Students will research the different careers in graphic design and the skills needed to be successful in those fields.

RESOURCES (Technology Based Resources, Text Resources, etc.):

- OneNote
- Adobe Photoshop
- Adobe Illustrator
- Canva

KEY VOCABULARY: Graphic Design, Photoshop, Illustrator