

Information Technology Fundamentals

6670 36 weeks

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Acknowledgments

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Office of Career, Technical, and Adult Education
Virginia Department of Education

Course Description

Suggested Grade Level: 9 or 10

Information Technology Fundamentals introduces the essential technical and professional skills required for students to pursue programs leading to professional careers and information technology certifications. The course introduces skills related to digital technology, digital applications, maintenance/upgrading/troubleshooting, and networking fundamentals. Students also explore ethical issues related to computers and Internet technology and examine web page and game design.

Recommended prerequisite(s): Keyboarding course(s) or teacher-approved demonstration and documentation of touch keyboarding skills

Task Essentials Table

- Tasks/competencies designated by plus icons (⊕) in the left-hand column(s) are essential
- Tasks/competencies designated by empty-circle icons (○) are optional
- Tasks/competencies designated by minus icons (⊖) are omitted
- Tasks marked with an asterisk (*) are sensitive.

Task Number	6670	Tasks/Competencies
Mastering Digital Technology Basics		
39	⊕	Investigate the history and emerging advances of digital technology.
40	⊕	Describe the effect of digital technology on business and society.
41	⊕	Describe software associated with information systems.
42	⊕	Explore binary concepts and their operations in the digital technology world.
43	⊕	Describe the evolution of the Internet and how it works.
44	⊕	Investigate emerging technologies as they relate to the future of the Internet.

45	<input checked="" type="radio"/>	Investigate trends in digital technology.	
46	<input checked="" type="radio"/>	Examine social, ethical, and legal issues associated with digital technology.	
47	<input checked="" type="radio"/>	Debate an ethical issue related to using computer and Internet technology.	
Using Digital Applications			
48	<input checked="" type="radio"/>	Create documents related to real-world business situations.	
49	<input type="radio"/>	Create a relational database for a real-world business situation.	
50	<input checked="" type="radio"/>	Create spreadsheets for a real-world business situation.	
51	<input checked="" type="radio"/>	Create presentations related to a real-world business situation.	
Investigating Computer Fundamentals			
52	<input checked="" type="radio"/>	Identify the parts of a computer system and the relationships among its components.	
53	<input checked="" type="radio"/>	Describe characteristics and functions of CPUs.	
54	<input checked="" type="radio"/>	Explain the functions and characteristics of system expansion devices.	
55	<input type="radio"/>	Demonstrate the use of connectivity devices and peripheral equipment.	
56	<input type="radio"/>	Perform basic operations in an operating system environment.	
57	<input checked="" type="radio"/>	Manage various file types.	
58	<input checked="" type="radio"/>	Describe the computer start-up sequence.	
59	<input checked="" type="radio"/>	Compare operating systems.	
60	<input checked="" type="radio"/>	Investigate needs affecting system purchases and upgrade decisions.	
61	<input type="radio"/>	Investigate the building stages of a computer.	
Maintaining, Upgrading, and Troubleshooting Computers			
62	<input checked="" type="radio"/>	Describe the importance of system maintenance and preventive measures.	
63	<input checked="" type="radio"/>	Install hardware in a computer system.	

64	<input type="radio"/>	Install software programs.
65	<input checked="" type="radio"/>	Explain the purpose of anti-X software.
66	<input checked="" type="radio"/>	Identify problems associated with computer hardware, operating systems, and application software.
67	<input checked="" type="radio"/>	Describe risk-mitigation techniques.
68	<input checked="" type="radio"/>	Identify security risks inherent to computer hardware and software.
69	<input checked="" type="radio"/>	Describe security best practices for businesses.
70	<input checked="" type="radio"/>	Describe the importance of data backup media and strategies.
71	<input checked="" type="radio"/>	Back up files.
72	<input checked="" type="radio"/>	Evaluate remote connection troubleshooting.
Exploring Network Fundamentals		
73	<input checked="" type="radio"/>	Investigate networks and their evolution.
74	<input checked="" type="radio"/>	Explain networking concepts and different network structures.
75	<input checked="" type="radio"/>	Compare peer-to-peer and client-server networks.
76	<input type="radio"/>	Describe the differences between analog and digital technologies.
Exploring Internet Fundamentals		
77	<input checked="" type="radio"/>	Identify the necessary elements that are required to connect to the Internet.
78	<input checked="" type="radio"/>	Describe the concept of IP addresses and the Domain Name System (DNS).
79	<input checked="" type="radio"/>	Explain the delivery methods of ISPs.
80	<input checked="" type="radio"/>	Compare the types and features of various web browsers.
81	<input checked="" type="radio"/>	Explain file transfer mechanisms.
82	<input checked="" type="radio"/>	Exhibit principles of digital citizenship.
83	<input checked="" type="radio"/>	Identify criteria for conducting searches on the Internet.

84	<input checked="" type="radio"/>	Assess the effect and value of available firewalls and intrusion detection systems (IDS).	
Exploring Programming			
85	<input checked="" type="radio"/>	Explain the purpose and functions of computer programming.	
86	<input type="radio"/>	Identify the types of programming languages.	
87	<input type="radio"/>	Explain the steps in a program life cycle.	
88	<input checked="" type="radio"/>	Design a simple program for a specific application.	
89	<input checked="" type="radio"/>	Create a simple computer program.	
90	<input checked="" type="radio"/>	Execute a simple program.	
91	<input checked="" type="radio"/>	Document a simple program.	
Exploring Web Page Design			
92	<input checked="" type="radio"/>	Investigate design elements of professionally developed websites.	
93	<input type="radio"/>	Analyze the navigation of a website for ease of use.	
94	<input checked="" type="radio"/>	Create a website.	
95	<input checked="" type="radio"/>	Investigate publishing a website.	
Exploring Graphics and Interactive Media			
96	<input checked="" type="radio"/>	Identify hardware required for multimedia and entertainment presentations.	
97	<input checked="" type="radio"/>	Identify software programs associated with graphics and interactive media.	
98	<input checked="" type="radio"/>	Explore the components of multimedia design and their applications.	
99	<input type="radio"/>	Explore digital technology as it relates to game design and development.	
100	<input checked="" type="radio"/>	Create an interactive multimedia presentation.	
Preparing for Industry Certification			

101	<input type="radio"/>	Describe the process and requirements for obtaining industry certifications related to the IT Fundamentals course.
102	<input checked="" type="radio"/>	Identify testing skills/strategies for a certification examination.
103	<input type="radio"/>	Demonstrate ability to successfully complete selected practice examinations.
104	<input type="radio"/>	Complete an industry certification examination representative of skills learned in this course.
Developing Career Exploration and Employability Skills		
105	<input checked="" type="radio"/>	Complete self-assessments to help determine career development goals.
106	<input checked="" type="radio"/>	Investigate careers, educational requirements, and certifications in the IT career pathways.
107	<input checked="" type="radio"/>	Demonstrate project-management skills.
108	<input checked="" type="radio"/>	Create manual and online employment-related correspondence.
109	<input checked="" type="radio"/>	Create an electronic and/or hard-copy portfolio.

Legend: Essential Non-essential Omitted

Curriculum Framework

Mastering Digital Technology Basics

Task Number 39

Investigate the history and emerging advances of digital technology.

Definition

Investigation should address the major milestones in the evolution of computer systems, including dates of key developments and significant advances in hardware, software, and programming languages.

FBLA Competitive Events and Activities Areas

Business Communication

Business Ethics

Business Skills and Knowledge

Emerging Business Issues

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Entrepreneurship

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Global Business

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Introduction to Business

Introduction to Business Communication

Introduction to Information Technology

Management Decision Making

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Management Information Systems

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Networking Concepts

Microsoft Imagine Academy Resources

[2.002] Microsoft Digital Literacy: First Course—Lesson 1

[Welcome to the World of Computers](#)

NBEA Achievement Standards for Information Technology

Analyze how human ingenuity and technology satisfy specific human needs.

Describe current and emerging hardware; configure, install, and upgrade hardware; diagnose problems; and repair hardware.

Evaluate the cause and effect of technological solutions on society.

Identify examples of emerging hardware technologies.

Task Number 40

Describe the effect of digital technology on business and society.

Definition

Description should include the

- types of jobs that have been eliminated
- areas that provide a large number of computer-related jobs
- ways computer devices are used throughout a business organization
- security risks and their associated safeguards to computer devices
- ways computing devices are used in the home and community
- ways computer technology has provided access to information and information exchange worldwide.

FBLA Competitive Events and Activities Areas

Business Communication

Business Ethics

Business Skills and Knowledge

Emerging Business Issues

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Entrepreneurship

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Global Business

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Introduction to Business

Introduction to Business Communication

Introduction to Information Technology

Management Decision Making

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Management Information Systems

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Networking Concepts

Microsoft Imagine Academy Resources

[2.002] Microsoft Digital Literacy: First Course—Lesson 1

[Welcome to the World of Computers](#)

NBEA Achievement Standards for Information Technology

Analyze and compare society's influence on information technology and information technology's influence on society.

Analyze how developments in information technology affect the supply/demand characteristics of the job market.

Assess how information technology changes the manner in which training is offered and implemented.

Assess the impact of information technology in a global society.

Describe how information technology affects worker-management relationships.

Describe how information technology changes social mores, including approaches toward work, family, school, and other cultures.

Describe how information technology creates greater interdependence among workers, organizations, and nations.

Describe the impact of technology on the knowledge and skills needed for success in the workplace.

Explain how information technology has contributed to worker productivity and teamwork.

Identify the impact of information technologies on the environment and society—both positive and negative (e.g., alternative fuel, disposal of information technology resources, GPS, electronic voting machines).

Identify uses of information technology in the home, school, workplace, and global society.

Illustrate how information technology changes organization structures.

Task Number 41

Describe software associated with information systems.

Definition

Description should include

- system software (i.e., operating systems, utilities, device drivers, and language translators)
- application software (i.e., word processing, database, spreadsheet, desktop publishing, graphics, presentation, web authoring, communications, and apps).

FBLA Competitive Events and Activities Areas

Business Communication

Business Ethics

Business Skills and Knowledge

Computer Applications

Database Design & Applications

Emerging Business Issues

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Entrepreneurship

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Global Business

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Introduction to Business

Introduction to Business Communication

Introduction to Information Technology

Management Decision Making

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Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

Spreadsheet Applications

Word Processing

Microsoft Imagine Academy Resources

[2.016] Microsoft Digital Literacy: Productivity Programs

[Productivity Programs—Entire Course](#)

NBEA Achievement Standards for Information Technology

Compare and contrast productivity software features from different providers.

Demonstrate the transferability of skills between productivity software applications.

Evaluate the effectiveness of software to solve specific problems.

Explore emerging productivity software.

Identify productivity software appropriate for specific tasks.

Identify, evaluate, and select software specific to an organizational function and/or industry.

Identify, evaluate, select, install, use, upgrade, and customize productivity software; diagnose and solve software problems.

Task Number 42

Explore binary concepts and their operations in the digital technology world.

Definition

Exploration includes the

- definition of a binary system
- principles of digital devices
- ways major operations have changed how humans work, live, and interact with others.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Computer Applications

Cyber Security

Database Design & Applications

Emerging Business Issues

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Entrepreneurship

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Introduction to Information Technology

Management Decision Making

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Management Information Systems

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Network Design

Networking Concepts

Spreadsheet Applications

Word Processing

NBEA Achievement Standards for Information Technology

Analyze how developments in information technology affect the supply/demand characteristics of the job market.

Describe the impact of technology on the knowledge and skills needed for success in the workplace.

Identify and evaluate how information technology developments changes the way humans do their work.

Use mathematical and/or statistical methods to manipulate data into useful information.

Task Number 43

Describe the evolution of the Internet and how it works.

Definition

Description should include

- a definition of the *Internet*
- the major dates and milestones in its evolution
- the types of software and Internet Protocols (IP) that make communication possible
- the elements required to connect to the Internet.

FBLA Competitive Events and Activities Areas

Business Communication

Business Ethics

Business Law

Business Skills and Knowledge

Computer Applications

Cyber Security

Database Design & Applications

E-Business

Emerging Business Issues

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Entrepreneurship

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Future Business Leader

Global Business

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Introduction to Business

Introduction to Business Communication

Introduction to Information Technology

Management Decision Making

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Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

Spreadsheet Applications

Website Design

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Word Processing

Microsoft Imagine Academy Resources

[2.013] Microsoft Digital Literacy: Internet and the World Wide Web—Lesson 2

[The World Wide Web](#) Click "View Course Topics" to see all lessons.

NBEA Achievement Standards for Information Technology

Analyze and compare society's influence on information technology and information technology's influence on society.

Analyze how developments in information technology affect the supply/demand characteristics of the job market.

Analyze how human ingenuity and technology satisfy specific human needs.

Analyze the potential societal effect of widespread reliance on information technology.

Assess the impact of information technology in a global society.

Task Number 44

Investigate emerging technologies as they relate to the future of the Internet.

Definition

Investigation should include the most up-to-date and cutting-edge research and technologies of the Internet.

FBLA Competitive Events and Activities Areas

Business Communication

Business Ethics

Business Law

Business Skills and Knowledge

Cyber Security

E-Business

Emerging Business Issues

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Future Business Leader

Global Business

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Introduction to Business

Introduction to Business Communication

Introduction to Information Technology

Management Decision Making

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Management Information Systems

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Network Design

Networking Concepts

Website Design

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Microsoft Imagine Academy Resources

[2.012] Microsoft Digital Literacy: Internet and the World Wide Web—Lesson 1

[The Internet](#) Click "View Course Topics" to see all lessons.

[2.015] Microsoft Digital Literacy: Internet and the World Wide Web—Lesson 4

[Other Methods of Communicating on the Internet](#) Click on "View Course Topics" to see all lessons.

NBEA Achievement Standards for Information Technology

Describe the impact of technological change on information technology positions and the resulting need for lifelong learning and retraining.

Discuss the impact of information technology on all careers.

Identify positions and career paths in the field of information technology and explore careers in information technology (e.g., field trips, guest speakers, job shadowing).

Task Number 45

Investigate trends in digital technology.

Definition

Investigation should concentrate on trends in digital technology as they relate to

- products that are new (including software applications) and products that are being phased out
- technology businesses that are succeeding and failing
- innovations in areas such as
 - animation
 - robotics
 - virtual reality
 - artificial intelligence
 - voice recognition
 - fiber optics
 - convergent technologies
 - lasers
 - wearable computer systems
- uses for emerging technologies in business, home, and society
- cybersecurity
- Internet of things (IoT).

FBLA Competitive Events and Activities Areas

3D Animation

Business Communication

Business Ethics

Business Law

Business Skills and Knowledge

Cyber Security

E-Business

Emerging Business Issues

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Entrepreneurship

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Future Business Leader

Global Business

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Introduction to Business

Introduction to Business Communication

Introduction to Information Technology

Management Decision Making

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Management Information Systems

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Network Design

Networking Concepts

Website Design

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Microsoft Imagine Academy Resources

[2.012] Microsoft Digital Literacy: Internet and the World Wide Web—Lesson 1

[The Internet](#) Click "View Course Topics" to see all lessons.

[2.029] Microsoft Digital Literacy: Digital Lifestyles

[Digital Lifestyles—Entire Course](#)

NBEA Achievement Standards for Information Technology

Describe education, experience, skills and personal requirements for careers in information technology.

Describe the impact of technological change on information technology positions and the resulting need for lifelong learning and retraining.

Discuss the impact of information technology on all careers.

Identify positions and career paths in the field of information technology and explore careers in information technology (e.g., field trips, guest speakers, job shadowing).

Obtain software industry certification(s) needed for a chosen career path.

Task Number 46

Examine social, ethical, and legal issues associated with digital technology.

Definition

Examination should relate to

- positive and negative significance of computer and digital technology (e.g., privacy, social networking, career, psychological, and health issues)
- legal ramifications of wiretapping and encryption
- legal ramifications of computer crimes
- ethical dilemmas or legal issues related to copyright, intellectual property, and appropriate use of computers, software, and the Internet.

FBLA Competitive Events and Activities Areas

3D Animation

Business Communication

Business Ethics

Business Law

Business Skills and Knowledge

Cyber Security

E-Business

Emerging Business Issues

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Entrepreneurship

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Future Business Leader

Global Business

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Introduction to Business

Introduction to Business Communication

Introduction to Information Technology

Management Decision Making

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Management Information Systems

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Network Design

Networking Concepts

Social Media Campaign

Website Design

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Microsoft Imagine Academy Resources

[2.023] **Microsoft Digital Literacy: Computer Security and Privacy**
[Computer Security and Privacy—Entire Course](#)

NBEA Achievement Standards for Information Technology

Analyze legal and ethical dilemmas within the framework of current laws and legislation (e.g., virus development, hacking, threats, phishing).

Demonstrate legal and ethical behaviors when using information technologies.

Describe, analyze, develop, and follow policies for managing ethical and legal issues in organizations and in a technology-based society.

Discuss basic issues related to responsible use of technology and describe personal or legal consequences of inappropriate use.

Evaluate the cause and effect of technological solutions on society.

Explain how information technologies meet human needs and affects quality of life.

Explain the consequences of illegal and unethical use of information technologies (e.g., piracy; illegal downloading; licensing infringement; inappropriate use of software, hardware, and mobile devices).

Identify the impact of information technologies on the environment and society—both positive and negative (e.g., alternative fuel, disposal of information technology resources, GPS, electronic voting machines).

Task Number 47

Debate an ethical issue related to using computer and Internet technology.

Definition

Debate should focus on issues such as

- use of a computer without authorization
- network hijacking or intrusion
- infection of a computer by a virus
- computer hacking
- cyberstalking or cyberbullying
- theft of computer equipment
- using the Internet or email for personal use on company time
- software piracy
- copyright issues related to information found on the Internet
- social networking
- identity theft.

FBLA Competitive Events and Activities Areas

Business Communication

Business Ethics

Business Law

Business Skills and Knowledge

Emerging Business Issues

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Entrepreneurship

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Future Business Leader

Global Business

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Introduction to Business

Introduction to Business Communication

Introduction to Information Technology

Management Decision Making

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Network Design

Networking Concepts

Microsoft Imagine Academy Resources

[2.028] Microsoft Digital Literacy: Computer Security and Privacy—Lesson 5

[Computer Ethics](#)

NBEA Achievement Standards for Information Technology

Analyze legal and ethical dilemmas within the framework of current laws and legislation (e.g., virus development, hacking, threats, phishing).

Demonstrate legal and ethical behaviors when using information technologies.

Describe, analyze, develop, and follow policies for managing ethical and legal issues in organizations and in a technology-based society.

Explain the consequences of illegal and unethical use of information technologies (e.g., piracy; illegal downloading; licensing infringement; inappropriate use of software, hardware, and mobile devices).

Implement organization policies and procedures dealing with legal and ethical issues.

Using Digital Applications

Task Number 48

Create documents related to real-world business situations.

Definition

Creation could include

- applying word processing or publishing techniques
 - creating
 - saving
 - modifying
 - printing
- using special features
 - spell check
 - templates
 - graphics
 - wizards
- generating items
 - letters
 - envelopes or labels
 - memoranda
 - newsletters
 - brochures
 - reports
 - tables
 - résumés.

FBLA Competitive Events and Activities Areas

American Enterprise Project

Business Financial Plan

Business Plan

Business Skills and Knowledge

Community Service Project

Computer Applications

Database Design & Applications

Electronic Career Portfolio

Local Chapter Annual Business Report (Hamden L. Forkner Award)

Partnership with Business Project

Spreadsheet Applications

Word Processing

Microsoft Imagine Academy Resources

[2.019] Microsoft Digital Literacy: Productivity Programs—Lesson 3
[Introduction to Word Processors](#)

NBEA Achievement Standards for Information Technology

Identify productivity software appropriate for specific tasks.

Use productivity software to create documents, research topics and take notes, categorize data, and perform calculations to improve academic achievement across the curriculum.

Use the collaborative features of productivity software to accomplish organizational tasks.

Task Number 49

Create a relational database for a real-world business situation.

Definition

Creation could include

- designing and modifying forms

- sorting data
- performing queries
- creating and printing forms.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Computer Applications

Database Design & Applications

Spreadsheet Applications

Word Processing

Microsoft Imagine Academy Resources

[2.022] Microsoft Digital Literacy: Productivity Programs—Lesson 6
[Introduction to Database Programs](#)

NBEA Achievement Standards for Information Technology

Identify productivity software appropriate for specific tasks.

Use advanced features of productivity software.

Use productivity software to create documents, research topics and take notes, categorize data, and perform calculations to improve academic achievement across the curriculum.

Use the collaborative features of productivity software to accomplish organizational tasks.

Task Number 50

Create spreadsheets for a real-world business situation.

Definition

Creation could include

- entering labels, values, and formulas

- saving, modifying, formatting, and printing data to create items (e.g., budgets, inventories, payrolls, and student grade reports).

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Computer Applications

Database Design & Applications

Spreadsheet Applications

Word Processing

Microsoft Imagine Academy Resources

[2.020] Microsoft Digital Literacy: Productivity Programs—Lesson 4
[Introduction to Spreadsheet Programs](#)

NBEA Achievement Standards for Information Technology

Identify productivity software appropriate for specific tasks.

Use advanced features of productivity software.

Use productivity software to create documents, research topics and take notes, categorize data, and perform calculations to improve academic achievement across the curriculum.

Use the collaborative features of productivity software to accomplish organizational tasks.

Task Number 51

Create presentations related to a real-world business situation.

Definition

Creation of multimedia presentations should be based on purpose and audience while applying elements and principles of design, such as the use of

- contrasting font and background colors for readability
- maintaining consistency in font and color schemes
- using photos, graphs, and charts to enhance presentation purpose
- using animation and transition to enhance presentation
- using text (limited text should be used to support the speaker, not read to the audience).

FBLA Competitive Events and Activities Areas

3D Animation

American Enterprise Project

Broadcast Journalism

Business Financial Plan

Business Plan

Business Skills and Knowledge

Coding and Programming

Community Service Project

Computer Game & Simulation Programming

Digital Video Production

E-Business

Electronic Career Portfolio

Future Business Leader

Graphic Design

Introduction to Business

Job Interview

Local Chapter Annual Business Report (Hamden L. Forkner Award)

Mobile Application Development

Network Design

Partnership with Business Project

Public Service Announcement

Publication Design

Sales Presentation

Social Media Campaign

Website Design

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Microsoft Imagine Academy Resources

[2.021] Microsoft Digital Literacy: Productivity Programs—Lesson 5
[Introduction to Presentation Programs](#)

NBEA Achievement Standards for Information Technology

Create multimedia content and prepare it for delivery (e.g., compression, resolution).

Create multimedia projects collaboratively.

Identify productivity software appropriate for specific tasks.

Prepare projects that include a variety of media (e.g., images, text, video, and audio).

Use multimedia software to create projects to enhance academic achievement across the curriculum.

Use productivity software to create documents, research topics and take notes, categorize data, and perform calculations to improve academic achievement across the curriculum.

Use the collaborative features of productivity software to accomplish organizational tasks.

Investigating Computer Fundamentals

Task Number 52

Identify the parts of a computer system and the relationships among its components.

Definition

Identification should include a(n)

- diagram of the primary computer system components (i.e., input, output, storage, peripheral devices, central processing unit [CPU], memory, input devices)
- description of the functions of the components
- explanation of how hardware components interact.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Computer Applications

Computer Problem Solving

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

Microsoft Imagine Academy Resources

[2.001] Microsoft Digital Literacy: A First Course

[First Course – Entire Course](#)

[2.006] Microsoft Digital Literacy: Computer Basics—Lesson 1

[Introduction to Computers](#) Click "View Course Topics" to see all lesson.

[2.007] Microsoft Digital Literacy: Computer Basics—Lesson 2

[Common Computer Terminology](#) Click "View Course Topics" to see all lessons.

NBEA Achievement Standards for Information Technology

Compare and contrast various storage options (e.g., local, removable, remote).

Connect needed peripheral devices.

Describe interrelationships between hardware components and supportive software.

Explain the purpose, operation, and care of hardware components.

Identify components of hardware.

Task Number 53

Describe characteristics and functions of CPUs.

Definition

Description should include

- characteristics and functions of the components
- types
- capabilities
- size and/or speeds of CPUs
- motherboards
- random access memory (RAM)
- expansion connections
- hard drives
- smart technology.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Computer Applications

Computer Problem Solving

Introduction to Information Technology

Network Design

Networking Concepts

Microsoft Imagine Academy Resources

[2.008] Microsoft Digital Literacy: Computer Basics—Lesson 3
[Computer Performance and Features](#) Click "View Course Topics" to see all lessons.

NBEA Achievement Standards for Information Technology

Compare and contrast various storage options (e.g., local, removable, remote).

Connect needed peripheral devices.

Describe interrelationships between hardware components and supportive software.

Explain the purpose, operation, and care of hardware components.

Identify components of hardware.

Identify hardware devices appropriate for specific tasks.

Task Number 54

Explain the functions and characteristics of system expansion devices.

Definition

Explanation should include a description of the

- the soundboard
- video board (i.e., video adapter)
- network interface board
- graphics board
- modem board.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Computer Applications

Computer Problem Solving

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

Microsoft Imagine Academy Resources

[2.008] Microsoft Digital Literacy: Computer Basics—Lesson 3

[Computer Performance and Features](#) Click "View Course Topics" to see all lessons.

NBEA Achievement Standards for Information Technology

Explain the purpose, operation, and care of hardware components.

Identify components of hardware.

Identify examples of emerging hardware technologies.

Identify hardware devices appropriate for specific tasks.

Task Number 55

Demonstrate the use of connectivity devices and peripheral equipment.

Definition

Demonstration should include installing and configuring devices and peripheral equipment and the use of

- portable storage devices
- printers/scanner
- cable modem
- wireless technologies
- portable input/output devices.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Computer Applications

Computer Problem Solving

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

Microsoft Imagine Academy Resources

[2.008] Microsoft Digital Literacy: Computer Basics—Lesson 3

[Computer Performance and Features](#) Click "View Course Topics" to see all lessons.

NBEA Achievement Standards for Information Technology

Compare and contrast various storage options (e.g., local, removable, remote).

Connect needed peripheral devices.

Explain the purpose, operation, and care of hardware components.

Identify components of hardware.

Identify hardware devices appropriate for specific tasks.

Task Number 56

Perform basic operations in an operating system environment.

Definition

Performance may include

- changing display properties (e.g., background, screen savers, appearance, effects, settings)
- changing settings in the control panel
- customizing items on the properties of the task bar and the start menu
- creating shortcuts
- setting the date and time.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Computer Applications

Computer Problem Solving

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

Microsoft Imagine Academy Resources

[2.009] Microsoft Digital Literacy: Computer Basics—Lesson 4

[Computer Operating Systems](#) Click "View Course Topics" to see all lessons.

NBEA Achievement Standards for Information Technology

Compare and contrast the functions, features, and limitations of different operating systems and utilities (e.g., open source, mobile, and proprietary operating systems).

Describe features of operating systems that can be personalized.

Identify, evaluate, select, install, use, upgrade, customize, and diagnose and solve problems with various types of operating systems and utilities.

Install and customize operating systems and utilities.

Navigate the basic operating system.

Task Number 57

Manage various file types.

Definition

Management should include

- identifying the hierarchy of files and folders
- matching file extensions with their associated programs
- differentiating among file types (e.g., command, data, directory, document, executable, image, object, spreadsheet, graphics, text files)
- using the + and - signs to expand and collapse features
- creating folders and moving files from one folder to another
- copying, cutting, deleting, renaming, sorting, and selecting files
- working with views (e.g., large or small icons, list, details)
- arranging icons by name, type, size, and date
- using the recycle bin's functions.

FBLA Competitive Events and Activities Areas

Business Procedures

Business Skills and Knowledge

Computer Applications

Database Design & Applications

Introduction to Information Technology

Network Design

Networking Concepts

Spreadsheet Applications

Word Processing

Microsoft Imagine Academy Resources

[2.009] Microsoft Digital Literacy: Computer Basics—Lesson 4

[Computer Operating Systems](#) Click "View Course Topics" to see all lessons.

NBEA Achievement Standards for Information Technology

Manage files and folders.

Navigate the basic operating system.

Task Number 58

Describe the computer start-up sequence.

Definition

Description should include a step-by-step list of the computer start-up sequence or boot process, along with

- power-up
- start boot program
- power-on self-test [POST]
- load operating system
- configuration check
- customization.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Computer Applications

Database Design & Applications

Introduction to Information Technology

Network Design

Networking Concepts

Spreadsheet Applications

Word Processing

NBEA Achievement Standards for Information Technology

Describe emerging operating systems.

Describe features of operating systems that can be personalized.

Diagnose and repair installation and operational problems of operating systems and utilities.

Task Number 59

Compare operating systems.

Definition

Comparison should include analyzing the components and functions of operating systems.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Computer Applications

Computer Problem Solving

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

Microsoft Imagine Academy Resources

[2.009] Microsoft Digital Literacy: Computer Basics—Lesson 4

[Computer Operating Systems](#) Click "View Course Topics" to see all lessons.

NBEA Achievement Standards for Information Technology

Compare and contrast the functions, features, and limitations of different operating systems and utilities (e.g., open source, mobile, and proprietary operating systems).

Describe various types of operating systems and utilities.

Task Number 60

Investigate needs affecting system purchases and upgrade decisions.

Definition

Investigation should focus on needs that affect system purchases such as the

- type
- quality
- price
- processing speed
- RAM
- hard drive (e.g., type, size, speed)
- number of bays
- monitor (e.g., type or size)
- modem (e.g., type, speed)
- video card
- number of expansion slots
- network card
- input devices (e.g., mouse, touch pad, controllers)
- sound card
- speakers.

Upgrade considerations should include the

- motherboard
- CPU
- memory
- hard drive
- power supply
- expansion slots
- internal modem
- video graphics card
- sound card
- network operating system
- adaptive devices.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Computer Applications

Computer Problem Solving

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

Microsoft Imagine Academy Resources

[2.005] Microsoft Digital Literacy: Computer Basics

[Computer Basics—Entire Course](#) Click "View Course Topics" to see all lesson.

[2.007] Microsoft Digital Literacy: Computer Basics—Lesson 2

[Common Computer Terminology](#) Click "View Course Topics" to see all lessons.

NBEA Achievement Standards for Information Technology

Analyze cost benefit and life cycle of hardware.

Compare and contrast the functions, features, and limitations of different operating systems and utilities (e.g., open source, mobile, and proprietary operating systems).

Evaluate hardware device options to make sound consumer decisions.

Evaluate hardware vendors, warranties, and purchasing options.

Identify, evaluate, select, install, use, upgrade, customize, and diagnose and solve problems with various types of operating systems and utilities.

Select operating systems and utilities appropriate for specific hardware, software, and tasks.

Task Number 61

Investigate the building stages of a computer.

Definition

Investigation should include

- websites that describe how to build a computer and prepare a report
- outlining the primary steps
 - choosing components
 - selecting the right tools
 - installing the CPU and RAM
 - mounting the motherboard into the case
 - installing the drives
 - installing video and peripheral component interconnect (PCI) cards
 - setting up the basic input/output systems (BIOS)
 - installing the operating system.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Computer Applications

Computer Problem Solving

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

NBEA Achievement Standards for Information Technology

Describe current and emerging hardware; configure, install, and upgrade hardware; diagnose problems; and repair hardware.

Identify components of hardware.

Remove, upgrade, store, and install computer hardware and supportive software.

Repair computer hardware and solve supportive software problems.

Troubleshoot advanced hardware and supportive software problems.

Maintaining, Upgrading, and Troubleshooting Computers

Task Number 62

Describe the importance of system maintenance and preventive measures.

Definition

Description should be based on

- type of equipment
- options to consider in performing maintenance and preventive measures
- types of protection (e.g., virus, spam)
- consequences of failing to take preventive measures.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Computer Applications

Computer Problem Solving

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

Word Processing

Microsoft Imagine Academy Resources

[2.023] Microsoft Digital Literacy: Computer Security and Privacy
[Computer Security and Privacy—Entire Course](#)

NBEA Achievement Standards for Information Technology

Adhere to privacy, safety and security policies and legislation (e.g., acceptable use policy, Web page policies, student photo policies, computer crime, fraud, abuse).

Identify and select controls for personnel, facilities, data, communications systems, and applications appropriate to specific risks.

Identify risks to personnel, facilities, data, communications systems, and applications.

Implement configuration management routines (e.g., service releases, back ups, system imaging).

Implement controls to prevent loss of integrity of data and other information resources.

Implement organizational policies and procedures for security, privacy, and risk management.

Implement procedures used to recover information from failures and security breaches (e.g., malware, viral infection).

Repair computer hardware and solve supportive software problems.

Task Number 63

Install hardware in a computer system.

Definition

Installation should be completed according to system requirements and instructor's guidelines.

Teacher resource:

- [Virginia Cyber Range](#). Virginia Cyber Range, Virginia Tech

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Computer Problem Solving

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

Task Number 64

Install software programs.

Definition

Installation of software programs and performance of basic software configuration operations should be completed according to instructions provided by the vendor.

FBLA Competitive Events and Activities Areas

Computer Applications

Introduction to Information Technology

Network Design

Networking Concepts

NBEA Achievement Standards for Information Technology

Remove, upgrade, store, and install computer hardware and supportive software.

Task Number 65

Explain the purpose of anti-X software.

Definition

Explanation should include

- defining *virus*, *spyware*, *malware*, and *spam*
- identifying and listing anti-X software options (e.g., anti-virus, anti-spyware, anti-spam).

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Computer Problem Solving

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

NBEA Achievement Standards for Information Technology

Remove, upgrade, store, and install computer hardware and supportive software.

Troubleshoot advanced hardware and supportive software problems.

Task Number 66

Identify problems associated with computer hardware, operating systems, and application software.

Definition

Identification may include problems with

- computer hardware such as startup problems (i.e., error messages, boot viruses, startup file issues, and registry problems)
- external connections (i.e., checking for plugs that may not be connected properly or cards that are not properly seated)
- operating systems (i.e., computer locks at inopportune times; system has low resources or inadequate memory)
- application software (i.e., locking up, configuration issues, and conflicts).

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Computer Applications

Computer Problem Solving

Cyber Security

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

Word Processing

NBEA Achievement Standards for Information Technology

Adhere to privacy, safety and security policies and legislation (e.g., acceptable use policy, Web page policies, student photo policies, computer crime, fraud, abuse).

Task Number 67

Describe risk-mitigation techniques.

Definition

Description of risk-mitigation techniques includes

- implementation of preventative policies and procedures
- utilization of preventative hardware and software
- loss control and prevention
- claims management
- identification of risk-mitigation software programs.

FBLA Competitive Events and Activities Areas

Business Procedures

Business Skills and Knowledge

Computer Applications

Computer Problem Solving

Cyber Security

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

Word Processing

Microsoft Imagine Academy Resources

[2.023] Microsoft Digital Literacy: Computer Security and Privacy
[Computer Security and Privacy—Entire Course](#)

NBEA Achievement Standards for Information Technology

Analyze security, privacy, and risk management dilemmas.

Apply ergonomic techniques to information technology tasks to avoid injury.

Design and implement a security plan for an information system, including communications systems.

Design and implement security, privacy, and risk management policies and procedures for information technology.

Develop and implement data retention and destruction schedules.

Develop and implement disaster prevention and recovery policies and procedures.

Task Number 68

Identify security risks inherent to computer hardware and software.

Definition

Identification could include

- assessing risk by identifying and prioritizing risks to the business
- conducting decision support by identifying and evaluating control solutions based on a defined cost-benefit analysis process
- implementing controls by deploying and operating control solutions to reduce risk to the business
- measuring program effectiveness by analyzing the risk-management process for effectiveness and verifying that controls are providing the expected degree of protection
- enhancing instructional resources.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Computer Applications

Computer Problem Solving

Cyber Security

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

Word Processing

Microsoft Imagine Academy Resources

[2.023] Microsoft Digital Literacy: Computer Security and Privacy
[Computer Security and Privacy—Entire Course](#)

NBEA Achievement Standards for Information Technology

Adhere to privacy, safety and security policies and legislation (e.g., acceptable use policy, Web page policies, student photo policies, computer crime, fraud, abuse).

Analyze security, privacy, and risk management dilemmas.

Design and implement a security plan for an information system, including communications systems.

Design and implement security, privacy, and risk management policies and procedures for information technology.

Develop and implement data retention and destruction schedules.

Develop and implement disaster prevention and recovery policies and procedures.

Identify and select controls for personnel, facilities, data, communications systems, and applications appropriate to specific risks.

Task Number 69

Describe security best practices for businesses.

Definition

Description should include using

- the web to research the types of security risks that any business may encounter
- small group problem-solving techniques to identify ways to prevent security problems
- patch management, application updates, and operating system (OS) hardening.

FBLA Competitive Events and Activities Areas

Business Law

Business Skills and Knowledge

Computer Applications

Computer Problem Solving

Cyber Security

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

Word Processing

NBEA Achievement Standards for Information Technology

Adhere to privacy, safety and security policies and legislation (e.g., acceptable use policy, Web page policies, student photo policies, computer crime, fraud, abuse).

Analyze security, privacy, and risk management dilemmas.

Apply ergonomic techniques to information technology tasks to avoid injury.

Explain the risks and dangers of sharing personal information.

Identify risks to personnel, facilities, data, communications systems, and applications.

Implement configuration management routines (e.g., service releases, back ups, system imaging).

Implement controls to prevent loss of integrity of data and other information resources.

Implement procedures used to recover information from failures and security breaches (e.g., malware, viral infection).

Task Number 70

Describe the importance of data backup media and strategies.

Definition

Description of backup strategies should include

- schedule
- frequency

- content or type
- storage location.

Options for backup media may include

- universal serial bus (USB) drives
- internal and external drives
- the Cloud.

FBLA Competitive Events and Activities Areas

Business Procedures

Business Skills and Knowledge

Computer Applications

Computer Problem Solving

Cyber Security

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

Word Processing

NBEA Achievement Standards for Information Technology

Design and implement a security plan for an information system, including communications systems.

Design and implement security, privacy, and risk management policies and procedures for information technology.

Develop and implement data retention and destruction schedules.

Implement configuration management routines (e.g., service releases, back ups, system imaging).

Implement organizational policies and procedures for security, privacy, and risk management.

Implement procedures used to recover information from failures and security breaches (e.g., malware, viral infection).

Task Number 71

Back up files.

Definition

Backing up files should be completed according to system and accessory instructions and instructor's guidelines.

FBLA Competitive Events and Activities Areas

Business Procedures

Business Skills and Knowledge

Computer Applications

Computer Problem Solving

Cyber Security

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

Word Processing

NBEA Achievement Standards for Information Technology

Develop and implement data retention and destruction schedules.

Develop and implement disaster prevention and recovery policies and procedures.

Identify and select controls for personnel, facilities, data, communications systems, and applications appropriate to specific risks.

Implement configuration management routines (e.g., service releases, back ups, system imaging).

Implement controls to prevent loss of integrity of data and other information resources.

Implement procedures used to recover information from failures and security breaches (e.g., malware, viral infection).

Task Number 72

Evaluate remote connection troubleshooting.

Definition

Evaluation includes using a remote desktop application to evaluate troubleshooting and support via a remote connection.

FBLA Competitive Events and Activities Areas

Business Procedures

Business Skills and Knowledge

Computer Applications

Computer Problem Solving

Cyber Security

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

NBEA Achievement Standards for Information Technology

Troubleshoot advanced hardware and supportive software problems.

Exploring Network Fundamentals

Task Number 73

Investigate networks and their evolution.

Definition

Investigation should include the

- definition of a *network*—connecting two or more computers together for the purpose of sharing information and resources
- development of the first network (e.g., 1975—first transmission control protocol/Internet protocol [TCP/IP] tested)
- types of networks (e.g., local area networks (LANs) and wide-area networks (WANs))
- networking terminology (e.g., Internet, intranet, traffic, gateway, Internet protocol [IP] address, terminator, hub or concentrator, token, signal bounce, bridge, router, server, virtual private networks [VPNs])
- trends related to networking, such as the use of wireless technology.

FBLA Competitive Events and Activities Areas

Business Procedures

Business Skills and Knowledge

Computer Problem Solving

Cyber Security

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

Microsoft Imagine Academy Resources

[2.007] Microsoft Digital Literacy: Computer Basics—Lesson 2

[Common Computer Terminology](#) Click "View Course Topics" to see all lessons.

NBEA Achievement Standards for Information Technology

Describe server virtualization and its impact on organizations.

Identify and use basic networking resources.

Identify components and characteristics of public networks (e.g., public telephone, cable, satellite, wireless) and their functions.

Identify, analyze, and evaluate emerging communications technologies for use in organizations.

Recognize the impact of the convergence of telephony, data, and video communications on networks.

Task Number 74

Explain networking concepts and different network structures.

Definition

Explanation should include

- the benefits of a network (e.g., information sharing, hardware sharing, software sharing, collaborative environment)
- a list and description of the types of networks (e.g., local and wide area)
- a list and description of communications media
 - physical media
 - twisted-pair cable

- coaxial cable
- fiber optic cable
- wireless media
- radio signals
- microwaves
- satellites
- a description of communications hardware
 - modem
 - cable modem
 - network interface cards
 - hub, bridge
 - gateway
 - router
 - software (e.g., network operating systems software)
- a description and example of the different network topologies (e.g., bus, ring, star, hybrid), network architecture, and protocols (e.g., Ethernet, token ring, and transmission control protocol [TCP]/IP, which is used by both local and wide area networks to connect to the Internet).

FBLA Competitive Events and Activities Areas

Business Procedures

Business Skills and Knowledge

Computer Problem Solving

Cyber Security

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

Microsoft Imagine Academy Resources

[2.007] Microsoft Digital Literacy: Computer Basics—Lesson 2

[Common Computer Terminology](#) Click "View Course Topics" to see all lessons.

NBEA Achievement Standards for Information Technology

Compare and contrast possible technology solutions for an organization.

Describe server functions, including specialized servers (e.g., Web, DHCP, DNS, mail, proxy servers), and identify hardware and software requirements, such as RAID.

Describe server virtualization and its impact on organizations.

Identify and use basic networking resources.

Identify components and characteristics of public networks (e.g., public telephone, cable, satellite, wireless) and their functions.

Identify, analyze, and evaluate emerging communications technologies for use in organizations.

Recognize the impact of the convergence of telephony, data, and video communications on networks.

Task Number 75

Compare peer-to-peer and client-server networks.

Definition

Comparing may include the following information:

- Peer-to-peer networks (architecture in which all of the computers on a network are equal with no computer designated as the server)
- Client-server networks (architecture in which one or more computers on the network acts as a server)
 - cost
 - efficiency
 - necessity of servers
 - software and operations systems
 - security and administration
 - implementation
 - location to users' desks
 - central security administration vs. users' acting as administrators
 - connecting computers by a simple cable system
 - resource sharing
 - network cabling
 - servers in a secure location
 - growth is limited in the near future

- security and safety techniques
 - network protection from virus attacks
 - product updates or purchasing new products
 - the use of new technologies (i.e., wireless connections).

FBLA Competitive Events and Activities Areas

Business Procedures

Business Skills and Knowledge

Computer Problem Solving

Cyber Security

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

Microsoft Imagine Academy Resources

[2.007] Microsoft Digital Literacy: Computer Basics—Lesson 2

[Common Computer Terminology](#) Click "View Course Topics" to see all lessons.

NBEA Achievement Standards for Information Technology

Distinguish among network environments (e.g., peer-to-peer, client-server, thin client, n-tier, Internetworks, intranets, extranets).

Task Number 76

Describe the differences between analog and digital technologies.

Definition

Description should compare the ways analog and digital technologies process signals, the advantages and disadvantages of each, and the products or trends associated with these technologies.

FBLA Competitive Events and Activities Areas

Business Procedures

Business Skills and Knowledge

Coding and Programming

Computer Problem Solving

Cyber Security

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

NBEA Achievement Standards for Information Technology

Compare and contrast possible technology solutions for an organization.

Evaluate, select, and deploy a variety of network architectures and protocols.

Identify and use basic networking resources.

Identify components and characteristics of public networks (e.g., public telephone, cable, satellite, wireless) and their functions.

Identify, analyze, and evaluate emerging communications technologies for use in organizations.

Exploring Internet Fundamentals

Task Number 77

Identify the necessary elements that are required to connect to the Internet.

Definition

Identification should include

- a description of the elements required to access the Internet
- digital devices
- operating system
- TCP/IP—protocol stack used to communicate with the Internet
- client software—web browser, email
- Internet connection—direct connection to an Internet service provider (ISP)
- Internet address—web addresses, email addresses, and server addresses.

FBLA Competitive Events and Activities Areas

Business Procedures

Business Skills and Knowledge

Computer Problem Solving

Cyber Security

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

Website Design

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Microsoft Imagine Academy Resources

[2.012] Microsoft Digital Literacy: Internet and the World Wide Web—Lesson 1
[The Internet](#) Click "View Course Topics" to see all lessons.

NBEA Achievement Standards for Communication

Design and publish an effective web page.

NBEA Achievement Standards for Information Technology

Analyze web server solutions and platforms.

Compare and contrast the features of web development software.

Connect web servers to application servers for interoperability.

Describe and use various Internet protocols.

Design, develop, test, implement, update, and evaluate web solutions.

Identify the information technology solutions to meet organization needs.

Task Number 78

Describe the concept of IP addresses and the Domain Name System (DNS).

Definition

Description may include

- information about why IP addresses are needed and an example of an IP address in a required format
- Domain Name System (DNS)—the three main components
- resolvers—pass name requests between applications and servers
- name servers—resolve computer or domain names to IP addresses
- domain namespace—a hierarchical grouping of names in various structures (i.e., root-level domains, top-level domains, second-level domains, and host names)
- an example of a domain name with labels for each of the three components (i.e., server/host name, registered company domain name, and domain category)
- a list of the most common top-level domains (i.e., .com, .edu, .gov, .mil, .org, and .net).

FBLA Competitive Events and Activities Areas

Business Procedures

Business Skills and Knowledge

Computer Problem Solving

Cyber Security

Introduction to Information Technology

Management Information Systems

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Network Design

Networking Concepts

Website Design

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Microsoft Imagine Academy Resources

[2.013] Microsoft Digital Literacy: Internet and the World Wide Web—Lesson 2
[The World Wide Web](#) Click "View Course Topics" to see all lessons.

NBEA Achievement Standards for Information Technology

Describe and use various Internet protocols.

Research and analyze hosting and domain name solutions.

Task Number 79

Explain the delivery methods of ISPs.

Definition

Explanation should include the definition of ISPs, their roles, services offered, and the methods of delivery, such as

- cable
- fiber optic
- satellite
- broadband
- wireless/hot spots.

FBLA Competitive Events and Activities Areas

Business Procedures

Business Skills and Knowledge

Computer Problem Solving

Cyber Security

Introduction to Information Technology

Management Information Systems

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Network Design

Networking Concepts

Website Design

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Microsoft Imagine Academy Resources

[2.013] Microsoft Digital Literacy: Internet and the World Wide Web—Lesson 2

[The World Wide Web](#) Click "View Course Topics" to see all lessons.

NBEA Achievement Standards for Information Technology

Describe and use various Internet protocols.

Task Number 80

Compare the types and features of various web browsers.

Definition

Comparison should include investigating the most popular web browsers and analyzing the major features and differences.

FBLA Competitive Events and Activities Areas

Business Procedures

Business Skills and Knowledge

Computer Problem Solving

Cyber Security

Introduction to Information Technology

Management Information Systems

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Network Design

Networking Concepts

Website Design

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Microsoft Imagine Academy Resources

[2.013] Microsoft Digital Literacy: Internet and the World Wide Web—Lesson 2
[The World Wide Web](#) Click "View Course Topics" to see all lessons.

NBEA Achievement Standards for Information Technology

Analyze web server solutions and platforms.

Compare and contrast the features of web development software.

Install and configure web development software and plug-ins.

Plan, set up, and configure a web server.

Task Number 81

Explain file transfer mechanisms.

Definition

Explanation should include a definition of file transfer protocol (FTP) and a description of the processes for downloading and uploading files with FTP.

FBLA Competitive Events and Activities Areas

Business Procedures

Business Skills and Knowledge

Computer Problem Solving

Cyber Security

Introduction to Information Technology

Management Information Systems

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Network Design

Networking Concepts

Website Design

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NBEA Achievement Standards for Information Technology

Publish files on local and remote systems.

Task Number 82

Exhibit principles of digital citizenship.

Definition

Exhibiting principles of digital citizenship should include following the rules of

- Internet etiquette (or netiquette)
- email etiquette
- social media
- resource citation.

FBLA Competitive Events and Activities Areas

Business Procedures

Business Skills and Knowledge

Computer Problem Solving

Cyber Security

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

Social Media Campaign

Website Design

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Microsoft Imagine Academy Resources

[2.014] Microsoft Digital Literacy: Internet and the World Wide Web—Lesson 3
[Using E-Mail](#) Click "View Course Topics" to see all lessons.

NBEA Achievement Standards for Communication

Apply the rules of digital communication etiquette.

Identify techniques to protect confidential messages that are transmitted digitally.

NBEA Achievement Standards for Information Technology

Analyze legal and ethical dilemmas within the framework of current laws and legislation (e.g., virus development, hacking, threats, phishing).

Demonstrate legal and ethical behaviors when using information technologies.

Task Number 83

Identify criteria for conducting searches on the Internet.

Definition

Identification should include an explanation of how search engines locate information, using various keyword methods.

FBLA Competitive Events and Activities Areas

Business Procedures

Business Skills and Knowledge

Cyber Security

Introduction to Information Technology

Management Information Systems

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Network Design

Networking Concepts

Website Design

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Microsoft Imagine Academy Resources

[2.013] Microsoft Digital Literacy: Internet and the World Wide Web—Lesson 2
[The World Wide Web](#) Click "View Course Topics" to see all lessons.

NBEA Achievement Standards for Communication

Discuss rules of safe and appropriate conduct when using the Internet and email.

NBEA Achievement Standards for Information Technology

Analyze the effectiveness of online information resources to support collaborative tasks, research, publications, communications, and increased productivity.

Gather, evaluate, use, cite, and disseminate information from technology sources.

Use a wide variety of information technology resources to retrieve information.

Use search procedures appropriate to type of information, nature of source, and nature of query.

Task Number 84

Assess the effect and value of available firewalls and intrusion detection systems (IDS).

Definition

Assessment includes examining the firewalls and network-based intrusion detection systems (NIDS) and host-based intrusion detection systems (HIDS) that monitor network or system activities for malicious activities or policy violations and evaluating the resulting report to a management station.

Teacher resource:

- [Virginia Cyber Range](#). Virginia Cyber Range, Virginia Tech

FBLA Competitive Events and Activities Areas

Business Procedures

Business Skills and Knowledge

Computer Applications

Computer Problem Solving

Cyber Security

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

NBEA Achievement Standards for Communication

Discuss and identify ways to keep business data secure from theft and destruction.

Discuss the risks of identity theft through blogs, websites, and other digital means.

NBEA Achievement Standards for Information Technology

Design hardware and software network security solutions (e.g., VPN, SSL, firewall).

Exploring Programming

Task Number 85

Explain the purpose and functions of computer programming.

Definition

Explanation may include

- a definition of *computer program*—a series of instructions or steps to be completed in a designated order that tell a computer what the user wants it to do
- the functions of computer applications (e.g., calculators, games, word processing, database creation, security features).

FBLA Competitive Events and Activities Areas

Business Procedures

Business Skills and Knowledge

Coding and Programming

Computer Problem Solving

Cyber Security

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

Microsoft Imagine Academy Resources

[2.017] Microsoft Digital Literacy: Productivity Programs—Lesson 1
[Introduction to Productivity Programs](#)

NBEA Achievement Standards for Information Technology

Develop both procedural and object-oriented programs.

Differentiate between source and object code.

Identify and define object-oriented programming terminology.

Identify and explain programming structures.

Task Number 86

Identify the types of programming languages.

Definition

Identification should include

- machine language

- assembly language
- procedure-oriented, high-level languages (i.e., COBOL, BASIC, Pascal, and C)
- database language (e.g., Sequel)
- object-oriented and event-driven languages (i.e., Visual BASIC, C++, JAVA, Python, and C#).

FBLA Competitive Events and Activities Areas

Business Procedures

Business Skills and Knowledge

Coding and Programming

Computer Problem Solving

Cyber Security

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

NBEA Achievement Standards for Information Technology

Choose the appropriate language or application development tool for specific tasks.

Code a program solution in more than one programming language.

Task Number 87

Explain the steps in a program life cycle.

Definition

Explanation should include

- defining and understanding the problem

- developing the algorithm (i.e., clearly defining a list of steps for solving a problem)
- coding the program
- testing and debugging the program
- documenting and maintaining the program.

FBLA Competitive Events and Activities Areas

Business Procedures

Business Skills and Knowledge

Coding and Programming

Computer Problem Solving

Cyber Security

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Networking Concepts

NBEA Achievement Standards for Information Technology

Design, develop, test, and implement programs.

Task Number 88

Design a simple program for a specific application.

Definition

Designing should illustrate how simple English instructions can be interpreted by pseudocode or a flowchart.

FBLA Competitive Events and Activities Areas

Business Communication

Business Procedures

Business Skills and Knowledge

Coding and Programming

Cyber Security

Database Design & Applications

Introduction to Business Communication

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

NBEA Achievement Standards for Information Technology

Apply design principles to programming tasks.

Choose the appropriate language or application development tool for specific tasks.

Code a program solution in more than one programming language.

Code common tasks (e.g., creating, adding, deleting, sorting, and updating records).

Create a project to solve a business problem integrating mobile platforms.

Design, develop, test, and implement programs.

Develop both procedural and object-oriented programs.

Task Number 89

Create a simple computer program.

Definition

Creation should include at least one functional operation according to a scenario provided by the instructor.

FBLA Competitive Events and Activities Areas

Business Communication

Business Procedures

Business Skills and Knowledge

Coding and Programming

Cyber Security

Database Design & Applications

Introduction to Business Communication

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

NBEA Achievement Standards for Information Technology

Apply design principles to programming tasks.

Choose the appropriate language or application development tool for specific tasks.

Code a program solution in more than one programming language.

Demonstrate the ability to code using object-oriented programming.

Design, develop, test, and implement programs.

Develop both procedural and object-oriented programs.

Task Number 90

Execute a simple program.

Definition

Execution should include testing and debugging the program, along with

- running the program with test data to test the logical validity of an application
- running the program to determine if there are software, syntax, logic, or run-time errors
- debugging the program, if errors still occur.

FBLA Competitive Events and Activities Areas

Business Communication

Business Procedures

Business Skills and Knowledge

Cyber Security

Database Design & Applications

Introduction to Business Communication

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

NBEA Achievement Standards for Information Technology

Test, debug, and document code.

Task Number 91

Document a simple program.

Definition

Documentation could include

- comments within the program (e.g., notes and explanations to facilitate usage and implementation)
- application program interface (API)
- a user manual.

FBLA Competitive Events and Activities Areas

Business Communication

Business Procedures

Business Skills and Knowledge

Coding and Programming

Cyber Security

Database Design & Applications

Introduction to Business Communication

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

NBEA Achievement Standards for Information Technology

Test, debug, and document code.

Exploring Web Page Design

Task Number 92

Investigate design elements of professionally developed websites.

Definition

Investigation should result in an analysis of the design elements used in professionally developed websites with examples of effective and ineffective sites. The following web design guidelines may be used to evaluate the effectiveness of site(s):

- Does the site have a consistent theme that is used on all web pages?

- Does the theme target a specific audience?
- Does it contain navigation links in the same place on each web page?
- Is there a "Home" link on each page that returns the user to the main page?
- Are the visuals appealing, and do they have a purpose?
- Are text blocks broken up for clarity and readability?
- Do the colors add to or subtract from the message?
- Does the website contain errors in the text?
- Does the site contain blinking, scrolling, or animated images that are distracting and/or irritating to the viewer?
- Is the website user-friendly with all popular browsers (i.e., browser evaluator) including mobile browsers?
- Does the website contain database technology in the background of the website?

FBLA Competitive Events and Activities Areas

Business Communication

Business Procedures

Business Skills and Knowledge

Coding and Programming

Cyber Security

Database Design & Applications

E-Business

Introduction to Business Communication

Introduction to Information Technology

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Website Design

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

NBEA Achievement Standards for Information Technology

Install and configure web development software and plug-ins.

Test, implement, and evaluate the website.

Troubleshoot advanced server and site dilemmas.

Task Number 93

Analyze the navigation of a website for ease of use.

Definition

Analysis should include reviewing a website sketch to determine if it includes a logical web folder hierarchy using appropriate topics and natural divisions in the organization it represents.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Coding and Programming

Cyber Security

E-Business

Website Design

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

NBEA Achievement Standards for Information Technology

Design and create websites incorporating navigation and linking.

Task Number 94

Create a website.

Definition

Creation of a website should include

- developing a storyboard or web map for the website
- selecting either HTML or a web design software package to create a website that includes text, graphic images, bulleted lists, an email address, and hyperlinks

- testing the accuracy of the design by viewing the pages in one or more web browsers.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Coding and Programming

Cyber Security

E-Business

Website Design

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

NBEA Achievement Standards for Information Technology

Design and create web pages incorporating various types of media (e.g., text, image, video, and audio).

Design and create websites incorporating navigation and linking.

Task Number 95

Investigate publishing a website.

Definition

Investigation may include

- identifying a website host
- determining the preferred procedures for posting or publishing the website by the website host
- deciding how often the site should be updated, who will provide the changes in content, and who will maintain the site.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Coding and Programming

Cyber Security

E-Business

Website Design

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

NBEA Achievement Standards for Information Technology

Publish files on local and remote systems.

Troubleshoot advanced server and site dilemmas.

Exploring Graphics and Interactive Media

Task Number 96

Identify hardware required for multimedia and entertainment presentations.

Definition

Identification should include the equipment needed for viewing multimedia

- an adequate CPU
- a video card
- speakers
- a monitor
- a media player

The equipment needed for viewing computer hardware should include a

- scanner
- microphone
- digital camera
- digital video camera.

FBLA Competitive Events and Activities Areas

3D Animation

American Enterprise Project

Broadcast Journalism

Business Financial Plan

Business Plan

Business Skills and Knowledge

Coding and Programming

Computer Game & Simulation Programming

Digital Video Production

E-Business

Electronic Career Portfolio

Future Business Leader

Graphic Design

Introduction to Business Presentation

Job Interview

Local Chapter Annual Business Report (Hamden L. Forkner Award)

Mobile Application Development

Partnership with Business Project

Public Service Announcement

Publication Design

Sales Presentation

Social Media Campaign

Sports and Entertainment Management

Website Design

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Microsoft Imagine Academy Resources

[2.021] Microsoft Digital Literacy: Productivity Programs—Lesson 5
[Introduction to Presentation Programs](#)

NBEA Achievement Standards for Information Technology

Analyze multimedia delivery tools and their impact on business functions.

Task Number 97

Identify software programs associated with graphics and interactive media.

Definition

Identification may result in a list of software programs that can be used to

- create and edit photos and art
- crop photos or adjust them to an appropriate size
- add captions, recolor images, and combine photos to create a photo collage
- create free-hand art, choosing colors, shapes, and three dimensional (3D) images
- create and edit information that will appear in electronic slides that may contain text, photos, art, tables, graphs, sound, animation, and video
- create schematic design.

FBLA Competitive Events and Activities Areas

3D Animation

American Enterprise Project

Broadcast Journalism

Business Financial Plan

Business Plan

Business Skills and Knowledge

Coding and Programming

Computer Game & Simulation Programming

Digital Video Production

E-Business

Electronic Career Portfolio

Future Business Leader

Graphic Design

Introduction to Business Presentation

Job Interview

Local Chapter Annual Business Report (Hamden L. Forkner Award)

Mobile Application Development

Partnership with Business Project

Public Service Announcement

Publication Design

Sales Presentation

Social Media Campaign

Website Design

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Microsoft Imagine Academy Resources

[2.021] Microsoft Digital Literacy: Productivity Programs—Lesson 5

[Introduction to Presentation Programs](#)

NBEA Achievement Standards for Information Technology

Identify and select appropriate multimedia file formats and properties (e.g., plug-ins, codecs, compression).

Select and apply multimedia software appropriate for specific tasks.

Use multimedia software to create media rich projects.

Task Number 98

Explore the components of multimedia design and their applications.

Definition

Exploration of existing sites may include the use of

- open-source applications
- animation
- audio
- graphic objects
- video
- text
- interaction of elements.

FBLA Competitive Events and Activities Areas

3D Animation

American Enterprise Project

Broadcast Journalism

Business Financial Plan

Business Plan

Business Skills and Knowledge

Coding and Programming

Computer Game & Simulation Programming

Digital Video Production

E-Business

Electronic Career Portfolio

Future Business Leader

Graphic Design

Introduction to Business Presentation

Job Interview

Local Chapter Annual Business Report (Hamden L. Forkner Award)

Mobile Application Development

Partnership with Business Project

Public Service Announcement

Publication Design

Sales Presentation

Social Media Campaign

Website Design

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Microsoft Imagine Academy Resources

[2.021] Microsoft Digital Literacy: Productivity Programs—Lesson 5
[Introduction to Presentation Programs](#)

NBEA Achievement Standards for Information Technology

Explore emerging multimedia software.

Identify and select appropriate multimedia file formats and properties (e.g., plug-ins, codecs, compression).

Select and apply multimedia software appropriate for specific tasks.

Select and integrate multimedia software products appropriate for various computer platforms.

Task Number 99

Explore digital technology as it relates to game design and development.

Definition

Exploration includes

- graphic and animation options (e.g., three dimensional [3D] vs. two dimensional [2D])
- sound quality as it relates to game development
- ethical issues in game development
- programming techniques necessary for professional success in the game industry
- virtual reality.

FBLA Competitive Events and Activities Areas

3D Animation

Business Skills and Knowledge

Coding and Programming

Computer Game & Simulation Programming

Cyber Security

Digital Video Production

E-Business

Introduction to Information Technology

Mobile Application Development

Website Design

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NBEA Achievement Standards for Information Technology

Explore emerging multimedia software.

Select and apply multimedia software appropriate for specific tasks.

Select and integrate multimedia software products appropriate for various computer platforms.

Use multimedia software to create media rich projects.

Task Number 100

Create an interactive multimedia presentation.

Definition

Creation could include the

- game
- app
- presentation, including hyperlinks.

FBLA Competitive Events and Activities Areas

3D Animation

American Enterprise Project

Broadcast Journalism

Business Financial Plan

Business Plan

Business Skills and Knowledge

Coding and Programming

Computer Game & Simulation Programming

Digital Video Production

E-Business

Electronic Career Portfolio

Future Business Leader

Graphic Design

Introduction to Business Presentation

Introduction to Information Technology

Job Interview

Local Chapter Annual Business Report (Hamden L. Forkner Award)

Mobile Application Development

Partnership with Business Project

Public Service Announcement

Publication Design

Sales Presentation

Social Media Campaign

Website Design

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NBEA Achievement Standards for Information Technology

Create multimedia content and prepare it for delivery (e.g., compression, resolution).

Create multimedia projects collaboratively.

Select and apply multimedia software appropriate for specific tasks.

Select and integrate multimedia software products appropriate for various computer platforms.

Use multimedia software to create media rich projects.

Preparing for Industry Certification

Task Number 101

Describe the process and requirements for obtaining industry certifications related to the IT Fundamentals course.

Definition

Description should include

- official websites of the testing organization or vendor
- materials from publishers that have developed practice materials and tests based on information from the testing organization or vendor
- information from certified instructors or industry-certified professionals
- information in the "Course Description" section of this document.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Coding and Programming

Computer Game & Simulation Programming

Cyber Security

Electronic Career Portfolio

Introduction to Information Technology

Job Interview

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Mobile Application Development

Task Number 102

Identify testing skills/strategies for a certification examination.

Definition

Identification of testing skills/strategies and benefits could be undertaken by

- conducting an Internet research project
- reviewing materials from exam and practice-exam publishers
- interviewing certified instructors and/or industry-certified professionals.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Electronic Career Portfolio

Job Interview

Task Number 103

Demonstrate ability to successfully complete selected practice examinations.

Definition

Demonstration should include successfully completing practice examinations/online learning assessment for selected certifications related to the course obtained from vendor sites and/or materials from publishers. The level of performance on a practice examination serves as a gauge of the applicant's readiness for formal industry testing.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Electronic Career Portfolio

Task Number 104

Complete an industry certification examination representative of skills learned in this course.

Definition

Completion of an industry certification examination (e.g., Microsoft Office Certifications [MOS], Internet Core Competency Certification [IC3], National Occupational Competency Testing Institute [NOCTI], and Microsoft Technology Associate [MTA]) will be achieved when the student applicant earns an examination score deemed passing by the testing organization. Qualifying examinations are those currently approved at the state level as representative of IT Fundamentals skills.

Students should be encouraged to attain industry certification as evidence of their IT skill level and general employability.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Computer Applications

Database Design & Applications

Electronic Career Portfolio

Job Interview

Spreadsheet Applications

Word Processing

Developing Career Exploration and Employability Skills

Task Number 105

Complete self-assessments to help determine career development goals.

Definition

Completing self-assessments should include locally-approved instruments and/or online instruments such as

- [Virginia Career View](#) (online career survey)
- [Trailblazers](#)
- [The Princeton Review Career Quiz](#)
- [Career Library Interest Assessment: University of California Berkeley](#)
- [O*NET Skills Search](#) (Click on Skills Search in the left-hand frame)
- [Jung Typology Test](#).

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Electronic Career Portfolio

Introduction to Business

Job Interview

NBEA Achievement Standards for Career Development

Assess and analyze personal talents, values, and interests as they may relate to a future career, based on the completion of standardized career interest and personality indicator assessments.

Assess and analyze strengths and weaknesses relative to a variety of career options.

Assess personal skills, abilities, and aptitudes and personal strengths and weaknesses as they relate to career exploration and development.

Compare personal skills and aptitudes with various career options.

Correlate personal characteristics with the requirements of specific jobs within career clusters.

Correlate personal, physical, and mental characteristics with various career clusters.

Task Number 106

Investigate careers, educational requirements, and certifications in the IT career pathways.

Definition

Investigation should include the types of jobs associated with each of the IT career pathways (i.e., Information Support and Services, Network Systems, Web and Digital Communications, Programming and Software Development, and Health, Safety, and Environmental Assurance), job descriptions, working conditions, education and training requirements, salary ranges, related industry certifications, and current/future employment outlook.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Electronic Career Portfolio

Introduction to Business

Job Interview

Microsoft Imagine Academy Resources

[2.035] Microsoft Digital Literacy: Digital Lifestyles—Lesson 6
[Digital Technology and Career Opportunities](#)

NBEA Achievement Standards for Career Development

Analyze a specific career cluster, using a variety of research tools (e.g., college career centers/counselors, professional and trade associations, career fairs, informational interviews, print media, and the Internet).

Analyze important relocation issues to be considered in making career or job choices.

Assess personal skills (e.g., communication and human relations skills and work ethic) as they relate to obtaining employment in another country.

Describe the impact of the global economy on jobs and careers.

Use a variety of research tools (e.g., computer-assisted programs, newspapers, books, professional and trade associations, informational interviews, job shadowing, career fairs, and the Internet) in the career exploration process.

Utilize career resources to develop a career information database that includes international career opportunities.

NBEA Achievement Standards for Information Technology

Describe the impact of technological change on information technology positions and the resulting need for lifelong learning and retraining.

Identify positions and career paths in the field of information technology and explore careers in information technology (e.g., field trips, guest speakers, job shadowing).

Identify the benefits of industry certifications and higher education pathways for various information technology fields.

Task Number 107

Demonstrate project-management skills.

Definition

Demonstration of project-management skills should include

- planning
- assessing resources
- delegating responsibilities
- prioritizing projects
- setting timelines and deadlines for development and production
- communicating potential benefits of achieving the goal
- acknowledging assistance and contributions of others
- reviewing project goals as the project is developed
- assessing the success of the completed project.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Electronic Career Portfolio

Emerging Business Issues

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Entrepreneurship

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Global Business

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Hospitality

Introduction to Business

Job Interview

Management Decision Making

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Management Information Systems

The topic for this event changes from year to year. The annual topic may or may not correlate with this particular course. Please refer to the current Virginia FBLA State Handbook.

Network Design

Sports and Entertainment Management

NBEA Achievement Standards for Management

Develop personal management skills to function effectively and efficiently in a business environment.

Recognize and demonstrate the knowledge-management skills needed to make decisions.

Task Number 108

Create manual and online employment-related correspondence.

Definition

Creation of manual and online employment-related correspondence may include a cover letter, a résumé, and an application.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Electronic Career Portfolio

Introduction to Business

Job Interview

L. Marguerite Crumley, Frank Manning Peele, Foundation's Sarah Lowe Thompson Scholarships

NBEA Achievement Standards for Career Development

Develop a career portfolio of items including resumes, sample cover letters, letters of recommendation, examples of work and technical skills, awards, and documentation of extracurricular activities and community service activities.

Prepare paper and electronic resumes and cover letters.

Task Number 109

Create an electronic and/or hard-copy portfolio.

Definition

Creation of a portfolio may include a résumé and a combination of electronic and non-electronic documents representing the student's work and qualifications. Selected documents should reflect the student's knowledge, skills, and abilities.

FBLA Competitive Events and Activities Areas

Business Skills and Knowledge

Electronic Career Portfolio

Job Interview

L. Marguerite Crumley, Frank Manning Peele, Foundation's Sarah Lowe Thompson Scholarships

NBEA Achievement Standards for Career Development

Develop a career portfolio of items including resumes, sample cover letters, letters of recommendation, examples of work and technical skills, awards, and documentation of extracurricular activities and community service activities.

Use evolving technologies to enhance the career portfolio.

SOL Correlation by Task

39	Investigate the history and emerging advances of digital technology.	English: 9.5, 9.8, 10.5, 10.8 History and Social Science: GOVT.9, GOVT.15, VUS.13, VUS.14, WHII.14
40	Describe the effect of digital technology on business and society.	English: 9.5, 9.8 History and Social Science: GOVT.9, GOVT.15, VUS.13, VUS.14, WHII.14
41	Describe software associated with information systems.	English: 9.5, 10.5
42	Explore binary concepts and their operations in the digital technology world.	English: 9.3, 9.5, 9.8, 10.3, 10.5, 10.8 History and Social Science: WHII.14
43	Describe the evolution of the Internet and how it works.	English: 9.3, 9.5, 10.3, 10.5

		History and Social Science: GOVT.9, GOVT.15, VUS.13, VUS.14, WHII.14
44	Investigate emerging technologies as they relate to the future of the Internet.	English: 9.5, 10.8 History and Social Science: VUS.14, WHII.14
45	Investigate trends in digital technology.	English: 9.5, 9.8, 10.5, 10.8 History and Social Science: VUS.14, WHII.2, WHII.14
46	Examine social, ethical, and legal issues associated with digital technology.	English: 9.5, 10.5 History and Social Science: GOVT.9, GOVT.15, VUS.13, VUS.14, WHII.14
47	Debate an ethical issue related to using computer and Internet technology.	English: 9.1, 9.5, 10.1, 10.5 History and Social Science: VUS.14, WHII.14
48	Create documents related to real-world business situations.	English: 9.6, 9.7, 10.6, 10.7
49	Create a relational database for a real-world business situation.	English: 9.6, 9.7, 10.6, 10.7 Mathematics: COM.9
50	Create spreadsheets for a real-world business situation.	English: 9.6, 9.7, 10.6, 10.7 Mathematics: A.1, A.4, COM.1, COM.4
51	Create presentations related to a real-world business situation.	English: 9.6, 9.7, 10.6, 10.7 Mathematics: COM.12
52	Identify the parts of a computer system and the relationships among its components.	English: 9.5, 10.5 Mathematics: COM.16
53	Describe characteristics and functions of CPUs.	English: 9.5, 10.5
54	Explain the functions and characteristics of system expansion devices.	English: 9.5, 10.5
55	Demonstrate the use of connectivity devices and peripheral equipment.	History and Social Science: VUS.14, WHII.14
56	Perform basic operations in an operating system environment.	Mathematics: COM.11
57	Manage various file types.	English: 9.5, 10.5
58	Describe the computer start-up sequence.	English: 9.5, 10.5
59	Compare operating systems.	English: 9.5, 10.5 Mathematics: COM.16

60	Investigate needs affecting system purchases and upgrade decisions.	English: 9.5, 9.8, 10.5, 10.8
61	Investigate the building stages of a computer.	English: 9.5, 9.6, 10.5, 10.6
62	Describe the importance of system maintenance and preventive measures.	English: 9.5, 10.5
63	Install hardware in a computer system.	
64	Install software programs.	
65	Explain the purpose of anti-X software.	English: 9.3, 9.5, 10.3, 10.5
66	Identify problems associated with computer hardware, operating systems, and application software.	English: 9.5, 10.5
67	Describe risk-mitigation techniques.	English: 9.5, 10.5
68	Identify security risks inherent to computer hardware and software.	English: 9.5, 10.5 Mathematics: COM.1
69	Describe security best practices for businesses.	English: 9.5, 9.8, 10.5, 10.8 History and Social Science: VUS.14, WHII.14
70	Describe the importance of data backup media and strategies.	English: 9.5, 10.5 Mathematics: COM.1
71	Back up files.	
72	Evaluate remote connection troubleshooting.	
73	Investigate networks and their evolution.	English: 9.5, 9.8, 10.5, 10.8 History and Social Science: VUS.14, WHII.14
74	Explain networking concepts and different network structures.	English: 9.5, 10.5 History and Social Science: VUS.14, WHII.14
75	Compare peer-to-peer and client-server networks.	English: 9.5, 10.5
76	Describe the differences between analog and digital technologies.	English: 9.5, 10.5 Science: PH.4
77	Identify the necessary elements that are required to connect to the Internet.	English: 9.5, 10.5 History and Social Science: VUS.14, WHII.14
78	Describe the concept of IP addresses and the Domain Name System (DNS).	English: 9.5, 10.5

79	Explain the delivery methods of ISPs.	English: 9.5, 10.5 History and Social Science: VUS.14, WHII.14
80	Compare the types and features of various web browsers.	English: 9.5, 10.5
81	Explain file transfer mechanisms.	English: 9.5
82	Exhibit principles of digital citizenship.	English: 9.5, 9.8, 10.5, 10.8 History and Social Science: VUS.14, WHII.14
83	Identify criteria for conducting searches on the Internet.	English: 9.5, 10.5
84	Assess the effect and value of available firewalls and intrusion detection systems (IDS).	English: 9.5, 10.5
85	Explain the purpose and functions of computer programming.	English: 9.3, 9.5, 10.3, 10.5 Mathematics: COM.1, COM.2, COM.3, COM.7, COM.8, COM.10, COM.11, COM.13, COM.14, COM.17, COM.18
86	Identify the types of programming languages.	English: 9.3, 9.5, 10.3, 10.5
87	Explain the steps in a program life cycle.	English: 9.3, 9.5, 10.3, 10.5 Mathematics: COM.1, COM.2, COM.3, COM.4, COM.6, COM.17, COM.18
88	Design a simple program for a specific application.	English: 9.6, 9.7, 10.3, 10.5, 10.6, 10.7 Mathematics: COM.1, COM.2, COM.3, COM.4, COM.6, COM.10, COM.11, COM.17, COM.18
89	Create a simple computer program.	Mathematics: COM.1, COM.2, COM.3, COM.4, COM.6, COM.10, COM.11, COM.17, COM.18
90	Execute a simple program.	Mathematics: COM.2, COM.17, COM.18
91	Document a simple program.	English: 9.6, 9.7, 10.6, 10.7 Mathematics: COM.2, COM.3
92	Investigate design elements of professionally developed websites.	English: 9.5, 10.5
93	Analyze the navigation of a website for ease of use.	English: 9.5, 10.5
94	Create a website.	English: 9.1, 9.2, 9.6, 9.7, 10.1, 10.2, 10.6, 10.7

		Mathematics: COM.11, COM.12
95	Investigate publishing a website.	English: 9.1, 9.2, 9.5, 10.1, 10.2, 10.5
96	Identify hardware required for multimedia and entertainment presentations.	
97	Identify software programs associated with graphics and interactive media.	English: 9.5, 9.6, 9.7, 10.5, 10.6, 10.7
98	Explore the components of multimedia design and their applications.	English: 9.5, 9.8, 10.5, 10.8
99	Explore digital technology as it relates to game design and development.	English: 9.5, 9.8, 10.5, 10.8
100	Create an interactive multimedia presentation.	English: 9.6, 9.7, 10.6, 10.7 Mathematics: COM.11, COM.12
101	Describe the process and requirements for obtaining industry certifications related to the IT Fundamentals course.	English: 9.6, 9.7, 10.6, 10.7
102	Identify testing skills/strategies for a certification examination.	English: 9.5, 10.5
103	Demonstrate ability to successfully complete selected practice examinations.	English: 9.5, 10.5
104	Complete an industry certification examination representative of skills learned in this course.	
105	Complete self-assessments to help determine career development goals.	English: 9.8, 10.8
106	Investigate careers, educational requirements, and certifications in the IT career pathways.	English: 9.5, 9.8, 10.5, 10.8
107	Demonstrate project-management skills.	English: 9.5, 9.6, 9.7, 10.5, 10.6, 10.7
108	Create manual and online employment-related correspondence.	English: 9.6, 9.7, 10.6, 10.7
109	Create an electronic and/or hard-copy portfolio.	English: 9.6, 9.7, 10.6, 10.7

Teacher Resources

Instructional Scenarios

The following instructional scenarios provide classroom activities to support the major concepts included in Information Technology Fundamentals.

- [What is the Internet of Things?](#)
Duty/Concept Area: Mastering Digital Technology Basics

Creating a presentation describing and illustrating the Internet of Things.

- [Which Software?](#)
Duty/Concept Area: Mastering Digital Technology Basics
Identifying what types of software are associated with information systems.
- [Create a Memo](#)
Duty/Concept Area: Using Digital Applications
Creating a memo explaining the necessity and process for submitting reimbursement requests.
- [Teaching the Next Generation](#)
Duty/Concept Area: Investigating Computer Fundamentals
Demonstrating what is inside a computing device.
- [He May Know about the Stars in Space, but Computer Science is a Different Story](#)
Duty/Concept Area: Investigating Computer Fundamentals
Organizing a computing device.
- [How to Backup Files](#)
Duty/Concept Area: Maintaining, Upgrading, and Troubleshooting Computers
Creating a back-up plan.
- [Basic Troubleshooting Techniques](#)
Duty/Concept Area: Maintaining, Upgrading, and Troubleshooting Computers
Understanding specific configurations on computers.
- [History of the Internet](#)
Duty/Concept Area: Exploring Network Fundamentals
Understanding the evolution of the Internet.
- [Which Network Technology is the Best?](#)
Duty/Concept Area: Exploring Network Fundamentals
Understanding network servers and choosing the correct one.
- [Internet Fundamentals - International Project](#)
Duty/Concept Area: Exploring Internet Fundamentals
Persuading governments that all citizens should have freedom of information.
- [Exploring Internet Fundamentals](#)
Duty/Concept Area: Exploring Internet Fundamentals
Explaining how a computer and the Internet work.
- [Internet Fundamentals - Elementary School Students](#)
Duty/Concept Area: Exploring Internet Fundamentals

Explaining how the Internet influences our everyday activities.

- [Exploring Programming - Summer Camp](#)
Duty/Concept Area: Exploring Programming
Creating a program using one of three programming languages.
- [Exploring Programming - Find the Code](#)
Duty/Concept Area: Exploring Internet Fundamentals
Solving a coding program problem by examining the code in each line.
- [Create a Local FBLA Website](#)
Duty/Concept Area: Exploring the Basics of Web Page Design
Using HTML or a website design software to create a website.
- [Create an Interactive Multimedia Presentation](#)
Duty/Concept Area: Exploring Graphics and Interactive Media
Creating an interactive multimedia presentation as a way to inform an audience about a topic.

Cybersecurity and Cyber Forensics Infusion Units

Cyber Security and Cyber Forensics Infusion Units (CYBR) were designed to be infused with designated CTE courses to help students in those programs achieve additional, focused, validated tasks/competencies in personal and professional cybersecurity skills. These units are not mandatory, and, as such, the tasks/competencies are marked as optional to be taught at the instructor's discretion.

Entrepreneurship Infusion Units

Entrepreneurship Infusion Units may be used to help students achieve additional, focused competencies and enhance the validated tasks/competencies related to identifying and starting a new business venture. Because the unit is a complement to certain designated courses and is not mandatory, all tasks/competencies are marked optional.

Appendix: Credentials, Course Sequences, and Career Cluster Information

Industry Credentials: Only apply to 36-week courses

- Business Information Processing Assessment
- Cloud Essentials Certification Examination
- College and Work Readiness Assessment (CWRA+)
- IC3 Digital Literacy Certification Examination
- Microsoft 365 Fundamentals Examination
- Microsoft Certified Azure Fundamentals Examination
- Microsoft Dynamics 365 Fundamentals Examination
- Microsoft Office Specialist (MOS) Examinations
- National Career Readiness Certificate Assessment
- Network Pro Certification Examination
- PC Pro Certification Examination
- Security Pro Certification Examination
- Workplace Readiness Skills for the Commonwealth Examination

Concentration sequences: *A combination of this course and those below, equivalent to two 36-week courses, is a concentration sequence. Students wishing to complete a specialization may take additional courses based on their career pathways. A program completer is a student who has met the requirements for a CTE concentration sequence and all other requirements for high school graduation or an approved alternative education program.*

- Computer Information Systems (6612/36 weeks)
- Computer Information Systems (6614/18 weeks)
- Computer Information Systems, Advanced (6613/36 weeks)
- Computer Information Systems, Advanced (6615/18 weeks)
- Computer Network Software Operations (6650/36 weeks)
- Computer Network Software Operations, Advanced (6651/36 weeks)
- Cybersecurity Software Operations (6304/36 weeks)
- Database Design and Management (Oracle) (6660/36 weeks)
- Design, Multimedia, and Web Technologies (6630/36 weeks)
- Design, Multimedia, and Web Technologies (6632/18 weeks)
- Design, Multimedia, and Web Technologies, Advanced (6631/36 weeks)
- Design, Multimedia, and Web Technologies, Advanced (6633/18 weeks)
- Digital Applications (6611/36 weeks)
- Digital Applications (6617/18 weeks)
- International Baccalaureate Information Technology in a Global Society (IB6613/36 weeks)
- Java Programming (Oracle) (6661/36 weeks)
- Legal Administration (6736/18 weeks)
- Legal Administration (6735/36 weeks)
- Medical Administration (6731/18 weeks)
- Medical Administration (6730/36 weeks)
- Office Administration (6621/36 weeks)
- Office Administration (6622/18 weeks)

- Office Specialist I--Preparation (6740/36 weeks)
- Office Specialist II--Preparation (6741/36 weeks)
- Office Specialist III--Preparation (6742/36 weeks)
- Programming (6640/36 weeks)
- Programming, Advanced (6641/36 weeks)

Career Cluster: Information Technology	
Pathway	Occupations
Information Support and Services	Administrative Assistant Computer Support Specialist Customer Service Representative Maintenance Technician
Network Systems	Computer and Information Systems Administrator Computer Security Specialist Computer Support Specialist Network and Computer Systems Administrator Telecommunications Specialist
Web and Digital Communications	Computer Support Specialist

Career Cluster: Science, Technology, Engineering and Mathematics	
Pathway	Occupations
Engineering and Technology	Computer Hardware Engineer Computer Programmer Computer Software Engineer Network and Computer Systems Administrator Network Systems and Data Communication Analyst Production, Planning, Expediting Clerk Project Manager Stockroom, Warehouse, or Storage Yard Stock Clerk Technical Writer Telecommunications Specialist Transportation Manager