Information Support and Services

ACADEMIC SKILLS

AA SPEAKING AND LISTENING
AA1 Utilize effective verbal and non-verbal communication skills
AA2 Participate in conversation, discussion, and group presentations
AA3 Communicate and follow directions/procedures
AA4 Communicate effectively with customers and co-workers

AB READING AND WRITING
AB1 Locate and interpret written information
AB2 Read and interpret workplace documents
AB3 Identify relevant details, facts, and specifications
AB4 Record information accurately and completely
AB5 Demonstrate competence in organizing, writing, and editing using correct vocabulary, spelling, grammar, and punctuation
AB6 Demonstrate the ability to write clearly and concisely using industry specific terminology

AC CRITICAL THINKING AND PROBLEM SOLVING
AC1 Utilize critical-thinking skills to determine best options/outcomes (e.g., analyze reliable/unreliable sources of information, use previous experiences, implement crisis management, develop contingency planning)
AC2 Utilize innovation and problem-solving skills to arrive at the best solution for current situation
AC3 Implement effective decision-making skills

AD MATHEMATICS
AD1 Perform basic and higher level math operations (e.g., addition, subtraction, multiplication, division, decimals, fractions, units of conversion, averaging, percentage, proportion, ratios)
AD2 Solve problems using measurement skills (e.g., distance, weight, area, volume)
AD3 Make reasonable estimates
AD4 Use tables, graphs, diagrams, and charts to obtain or convey information
AD5 Use deductive reasoning and problem-solving in mathematics

**AE FINANCIAL LITERACY**

AE1 Locate, evaluate, and apply personal financial information
AE2 Identify the components of a budget and how one is created
AE3 Set personal financial goals and develop a plan for achieving them
AE4 Use financial services effectively
AE5 Demonstrate ability to meet financial obligations

**AF INTERNET USE AND SECURITY**

AF1 Recognize the potential risks associated with Internet use
AF2 Identify and apply Internet security practices (e.g., password security, login, logout, log off, lock computer)
AF3 Practice safe, legal, and responsible use of technology in the workplace

**AG INFORMATION TECHNOLOGY**

AG1 Use technology appropriately to enhance professional presentations
AG2 Demonstrate effective and appropriate use of social media
AG3 Identify ways social media can be used as marketing, advertising, and data gathering tools

**AH TELECOMMUNICATIONS**

AH1 Select and use appropriate devices, services, and applications to complete workplace tasks
AH2 Demonstrate appropriate etiquette when using e-communications (e.g., cell phone, e-mail, personal digital assistants, online meetings, conference calls)
EMPLOYABILITY SKILLS

EA POSITIVE WORK ETHIC
EA1 Demonstrate enthusiasm and confidence about work and learning new tasks
EA2 Demonstrate consistent and punctual attendance
EA3 Demonstrate initiative in assuming tasks
EA4 Exhibit dependability in the workplace
EA5 Take and provide direction in the workplace
EA6 Accept responsibility for personal decisions and actions

EB INTEGRITY
EB1 Abide by workplace policies and procedures
EB2 Demonstrate honesty and reliability
EB3 Demonstrate ethical characteristics and behaviors
EB4 Maintain confidentiality and integrity of sensitive company information
EB5 Demonstrate loyalty to the company

EC SELF-REPRESENTATION
EC1 Demonstrate appropriate dress and hygiene in the workplace
EC2 Use language and manners suitable for the workplace
EC3 Demonstrate polite and respectful behavior toward others
EC4 Demonstrate personal accountability in the workplace
EC5 Demonstrate pride in work

ED TIME, TASK, AND RESOURCE MANAGEMENT
ED1 Plan and follow a work schedule
ED2 Work with minimal supervision
ED3 Work within budgetary constraints
ED4 Demonstrate ability to stay on task to produce high quality deliverables on time
EE DIVERSITY AWARENESS

EE1 Recognize diversity, discrimination, harassment, and equity
EE2 Work well with all customers and co-worker
EE3 Explain the benefits of diversity within the workplace
EE4 Explain the importance of respect for feelings, values, and beliefs of others
EE5 Identify strategies to bridge cultural/generational differences and use differing perspectives to increase overall quality of work
EE6 Illustrate techniques for eliminating gender bias and stereotyping in the workplace
EE7 Identify ways tasks can be structured to accommodate the diverse needs of workers
EE8 Recognize the challenges and advantages of a global workforce

EF TEAMWORK

EF1 Recognize the characteristics of a team environment and conventional workplace
EF2 Contribute to the success of the team
EF3 Demonstrate effective team skills and evaluate their importance in the workplace (e.g., setting goals, listening, following directions, questioning, dividing work)

EG CREATIVITY AND RESOURCEFULNESS

EG1 Contribute new ideas
EG2 Stimulate ideas by posing questions
EG3 Value varying ideas and opinions
EG4 Locate and verify information

EH CONFLICT RESOLUTION

EH1 Identify conflict resolution skills to enhance productivity and improve workplace relationships
EH2 Implement conflict resolution strategies and problem-solving skills
EH3 Explain the use of documentation and its role as a component of conflict resolution

EI CUSTOMER/CLIENT SERVICE

EI1 Recognize the importance of and demonstrate how to properly acknowledge customers/clients
EI2 Identify and address needs of customers/clients
EI3 Provide helpful, courteous, and knowledgeable service

EI4 Identify appropriate channels of communication with customers/clients (e.g., phone call, face-to-face, e-mail, website)

EI5 Identify techniques to seek and use customer/client feedback to improve company services

EI6 Recognize the relationship between customer/client satisfaction and company success

**EJ ORGANIZATIONS, SYSTEMS, AND CLIMATES**

EJ1 Define profit and evaluate the cost of conducting business

EJ2 Identify "big picture" issues in conducting business

EJ3 Identify role in fulfilling the mission of the workplace

EJ4 Identify the rights of workers (e.g., adult and child labor laws and other equal employment opportunity laws)

EJ5 Recognize the chain of command, organizational flow chart system, and hierarchy of management within an organization

**EK JOB ACQUISITION AND ADVANCEMENT**

EK1 Recognize the importance of maintaining a job and pursuing a career

EK2 Define jobs associated with a specific career path or profession

EK3 Identify and seek various job opportunities (e.g., volunteerism, internships, co-op, part-time/full-time employment)

EK4 Prepare a resume, letter of application, and job application

EK5 Prepare for a job interview (e.g., research company, highlight personal strengths, prepare questions, set-up a mock interview, dress appropriately)

EK6 Participate in a job interview

EK7 Explain the proper procedure for leaving a job

**EL LIFELONG LEARNING**

EL1 Acquire current and emerging industry-related information

EL2 Demonstrate commitment to learning as a life-long process and recognize learning opportunities

EL3 Seek and capitalize on self-improvement opportunities

EL4 Discuss the importance of flexible career planning and career self-management
EL5 Employ leadership skills to achieve workplace objectives (e.g., personal vision, adaptability, change, shared vision)

EL6 Recognize the importance of job performance evaluation and coaching as it relates to career advancement

EL7 Accept and provide constructive criticism

EL8 Describe the impact of the global economy on jobs and careers

**EM JOB SPECIFIC TECHNOLOGIES**

EM1 Identify the value of new technologies and their impact on driving continuous change and the need for life-long learning

EM2 Research and identify emerging technologies for specific careers

EM3 Select appropriate technological resources to accomplish work

**EN HEALTH AND SAFETY**

EN1 Assume responsibility for safety of self and others

EN2 Follow safety guidelines in the workplace

EN3 Manage personal health and wellness
OCCUPATIONAL SKILLS

OA COMPUTER LITERACY

OA 1 Demonstrate proficiency in a word processing package

OA 2 Demonstrate proficiency in a spreadsheet package

OA 3 Describe common applications of a database

OA 4 Demonstrate proficiency in a presentation package

OA 5 Send and receive electronic mail

OA 6 Print in landscape and portrait orientations

OA 7 Apply Internet etiquette and safety

OA 8 Explain the differences between a Web browser and a search engine

OA 9 Navigate a World Wide Web browser

OA 10 Identify Internet search engines and their advantages and disadvantages

OA 11 Demonstrate proficiency in the use of the Internet

OA 12 Identify what an operating system is, how it works, and be able to solve common problems

OA 13 Manipulate (e.g., create, copy, cut, paste, move, rename, delete) files and folders to manage and maintain data

OA 14 Discriminate between ethical and unethical uses of computers and information

OA 15 Demonstrate an understanding of copyrights and licensing

OA 16 Demonstrate an awareness of computer security and a basic understanding of ways to protect a computer (e.g., viruses, Trojans, Malware)

OA 17 Explain the impact of computers on society

OA 18 Identify types of computers, platforms, and devices explaining how they process information and how individual computers interact with other computing systems and devices

OA 19 Identify the function of computer hardware components

OA 20 Identify how to maintain computer equipment and solve common problems relating to computer hardware

OA 21 Identify how software and hardware work together to perform computing tasks and how software is developed and upgraded
OA 22 Identify different types of software, general concepts relating to software categories, and the tasks to which each type of software is most suited or not suited

OA 23 Demonstrate the safe and responsible use of resources, office equipment, and machines

**OB INFORMATION TECHNOLOGY PROJECT MANAGEMENT**

OB 1 Determine client needs

OB 2 Determine the purpose and goals of the project

OB 3 Identify target audience

OB 4 Identify stakeholders and decision makers

OB 5 Define scope of work to meet client requirements

OB 6 Evaluate project requirements

OB 7 Estimate time requirements

OB 8 Create a project plan

OB 9 Estimate project pricing

OB 10 Demonstrate knowledge of project budgeting, scheduling, and control issues related to development and support

OB 11 Identify tools and resources for the job

OB 12 Identify critical milestones

OB 13 Report project status

OB 14 Identify software packages (e.g., MS Project, Freeware, Shareware)

**OC COMPUTER MAINTENANCE ESSENTIALS**

OC 1 Identify the names, purpose, and characteristics of computer systems and peripheral devices (e.g., motherboards, expansion/adapter cards, processors, cooling systems, memory, storage devices, power supplies, input devices, cables, output devices)

OC 2 Identify the steps to install, configure, optimize, and upgrade personal computer components and peripherals (e.g., internal/external storage devices, display devices, basic input devices, multimedia devices)

OC 3 Identify software tools, diagnostic procedures, and troubleshooting techniques for personal computer systems

OC 4 Identify techniques to perform preventative maintenance on personal computer components
OC 5 Identify the steps to install, configure, upgrade, and support laptops/portable devices and identify the names, purposes, and characteristics of mobile computer systems

OC 6 Identify the steps to install, configure, optimize, and upgrade the current client operating systems

OC 7 Identify locations, purposes, and characteristics of operating system files

OC 8 Create, view, and manage disks, directories, and files in operating systems

OC 9 Identify tools, diagnostic procedures, and troubleshooting techniques for operating systems

OC 10 Identify the names, purposes, and methods of connection for printer and scanner components and the use of network print services

OC 11 Describe how to install, configure, optimize, troubleshoot, and upgrade printers and scanners

OC 12 Describe basic physical networking connectivity concepts (e.g., cables, connectors, connection types, network devices)

OC 13 Install, configure, and troubleshoot network interfaces and manage wired/wireless connections

OC 14 Recognize the fundamental principles of information technology security (e.g., Desktop, Network, personal devices, VPN)

OC 15 Identify basic network components (e.g., server, switch, router, access point)

OC 16 Identify the fundamental principles of security including smart cards, authentication technologies, malicious software protection, firewalls, file system security, wireless network security, data, and physical security

OC 17 Identify potential safety hazards and take preventative action including proper disposal (e.g., disposal procedures of batteries, display devices, chemical solvents and cans)

OC 18 Convert among decimal, binary, and hexadecimal number systems

OC 19 Access needed information using company and manufacturers' references (e.g., procedural manuals, documentation, standards, work flowcharts, firmware updates, drivers, manufacturers' websites)

OD ADVANCED COMPUTER MAINTENANCE

OD 1 Access needed information using company and manufacturer' references (e.g., procedural manuals, documentation, standards, work flowcharts, firmware updates, drivers, manufacturers' websites)

OD 2 Isolate and identify computer problems using visual/audible inspection of components and follow appropriate troubleshooting procedures (e.g., status lights, beep codes, visual inspection of circuitry)

OD 3 Explain appropriate usage for mobile specific communications

OD 4 Identify major components of the LCD in portable devices (e.g., inverter, screen, backlight)

OD 5 Identify the steps to use appropriate tools, diagnostic procedures, and troubleshooting techniques to diagnose power conditions, video, keyboard, pointer, and network connectivity issues in portable
devices (e.g., multimeters, anti-static devices, loopback plugs, specialty tools, cleaning products, cable testers)

OD 6 Use command line functions and utilities, including proper syntax, to manage and troubleshoot operating systems (e.g., msconfig, regedit, chkdsk)

OD 7 Locate and use appropriate operating system utilities for troubleshooting and maintenance (e.g., system, disk management tools)

OD 8 Demonstrate ability to recover operating systems

OD 9 Implement basic network components (e.g., server, switch, router, access point)

OD 10 Identify names, purposes, and characteristics of basic IP networks and terminologies (e.g. port identification, usage)

OD 11 Identify the steps to establish network connectivity, wired, and wirelessly for end users, install and configure browsers, create and manage network shares

OD 12 Use command line tools to diagnose and troubleshoot network connection issues

OD 13 Define and explain how to troubleshoot software and data security issues including software firewall issues, data/user access, and file system security

OD 14 Define fault tolerance, disaster recovery, and various backup types/backup media (e.g. RAID levels)

**OE OPERATING SYSTEM SUPPORT**

OE 1 Compare and contrast an attended and unattended installation of an operating system

OE 2 Identify the steps to perform post installation configuration (e.g., user configuration, apply service packs)

OE 3 Answer end user questions related to upgrading from a previous version of an operating system

OE 4 Identify and troubleshoot system startup and user logon problems

OE 5 Identify the steps to monitor and analyze system performance

OE 6 Identify the steps to configure and troubleshoot power management

OE 7 Identify the steps to configure support for multiple languages or multiple locations

OE 8 Identify the steps to configure and troubleshoot remote connections

OE 9 Identify the steps to configure and troubleshoot end user systems using remote access

OE 10 Identify and describe how and when to use hard drive imaging as a repair tool

**OF SMALL NETWORK SUPPORT**

OF 1 Plan and install a home or small business network and connect it to the Internet
OF 2 Verify and troubleshoot network and Internet connectivity

OF 3 Share resources such as files and printers among multiple computers

OF 4 Recognize threats to a home network and identify ways to implement security protocols

OF 5 Configure static and/or dynamic IP services through a GUI

**OG APPLICATIONS SUPPORT**

OG 1 Explain troubleshooting guidelines and tools to support users running applications

OG 2 Explain the importance of system architecture as it relates to troubleshooting applications

OG 3 Troubleshoot application installation and compatibility issues

OG 4 Answer end user questions related to configuring and customizing productivity applications

OG 5 Identify the steps to configure email programs and to access email servers

OG 6 Troubleshoot issues related to personal information management

OG 7 Identify the steps to backup client email

OG 8 Identify the steps to configure and troubleshoot application access on a network

**OH GREEN INFORMATION TECHNOLOGY**

OH 1 Explain ways to save energy in the server room

OH 2 Explain ways to make the work space more energy efficient

OH 3 Identify benefits of working in a non-traditional work environment

**OI HELP DESK SERVICE SKILLS AND TOOLS**

OI 1 Analyze the role of a help desk and customer service in an organization

OI 2 Describe different computer support roles (e.g., bench tech, field tech, telephone support)

OI 3 Describe technology trends and current issues such as virus outbreaks, virtual environment, cloud computing, and personal devices

OI 4 Communicate effectively with customers and co-workers

OI 5 Interact with customers over the telephone

OI 6 Exhibit positive professionalism with customers

OI 7 Demonstrate technical writing skills

OI 8 Resolve difficult situations in customer support
OI 9 Demonstrate a methodical approach to the problem-solving process

OI 10 Demonstrate personal, system, and stress management by using self-help tools

OI 11 Identify and utilize how best to use call management software

OI 12 Identify and utilize how best to use problem resolution software

OI 13 Identify and utilize how best to use asset and change management tools

OI 14 Identify and implement the steps to use alerts and notification tools for support

OI 15 Identify the levels of a support ticket and identify when the level escalates

OI 16 Evaluate trends in hardware and software failures

OJ INDUSTRY CERTIFICATION

OJ 1 Describe the process and requirements for obtaining industry certification related to information support and services

OJ 2 Demonstrate the ability to successfully complete selected practice examinations and practice questions similar to those on certification exams

OJ 3 Identify testing skills/strategies for taking a certification examination

OK CAREER PATHWAYS IN INFORMATION SUPPORT AND SERVICES

OK 1 Identify careers in the information support and services field

OK 2 Search the Internet and other sources for job opportunities

OK 3 Assemble a professional portfolio that contains representative samples of student's work

OK 4 Deliver an oral presentation relating to the professional portfolio

OK 5 Identify potential employment barriers for nontraditional groups and ways to overcome the barriers