

Executive Order on Cybersecurity Workforce

On May 11, 2017, the President of the United States issued the [Executive Order on Strengthening the Cybersecurity of Federal Networks and Critical Infrastructure \(link is external\)](#). In part, the order states that it is the policy of the United States “to support the growth and sustainment of a workforce that is skilled in cybersecurity and related fields as the foundation for achieving our objectives in cyberspace.” Consequently, the Secretary of Commerce and Secretary of Homeland Security are directed to:

1) “assess the scope and sufficiency of efforts to educate and train the American cybersecurity workforce of the future, including cybersecurity-related education curricula, training, and apprenticeship programs, from primary through higher education”; and

Graduate of the Cyber Security, Networking Administration Support, and Database Management Administration program at Tacoma Community College (TCC). Real world hands-on experience in help desk, technical support, networking support administration, database management administration and cyber security in the Information Technology field.

Program Prerequisites												Credit	Quarter Offered	
Assessment above or completion of ENGL 95 with a C or higher														
Assessment above or completion of READ 95 with a C or higher														
Assessment above or completion of MATH 75 with a C or higher														
Completion of CU 100 with a C or high or instructor permission														
Help Desk Certificate	CU 105	Word, I, Excel I (CU 102 & CU 103)										5	F, W, Sp, S	
	CU 108	Outlook										2	F, W, Sp, S	
	IT 102	Microcomputer Fundamentals (Concurrent 102 & 110)										5	F, W	
	IT 110	Operating Systems I (Concurrent 102 & 110)										5	F, W	
	IT 112	Help Desk Operations										2	W, Sp, S	
	Total credits =										19			
Technical Support Certificate	IT 210	Operating Systems II										5	W, Sp	
	IT 260	Client/Server Technology LANs (Concurrent 260 & 261)										5	Sp	
	IT 261	Administration of Networks (Concurrent 260 & 261)										5	Sp	
	IT 262	Technical Support of Windows Networks (Concurrent 262 with 270 or 275)										5	F	
	20 additional credits =										39			
Degree Options														
Network Administration & Support Certificate	IT 247	IT Project Management	5	Sp, S	Cybersecurity Certificate	IT 247	IT Project Management	5	Sp, S	Database Management Certificate	IT 247	IT Project Management	5	Sp, S
	IT 274	Network Security Fundamentals	5	F, W, Sp, S		IT 274	Network Security Fundamentals	5	F, W, Sp, S		IT 274	Network Security Fundamentals	5	F, W, Sp, S
	IT 270	Service and Support Fundamentals	5	F		IT 275	Security Assessment & Remediation	5	F		IT 246	SQL Server Implementation	5	F
	IT 271	Internetworking	5	W		IT 278	Incident Response & Intrusion Analysis	5	W		IT 249	Database Programming	5	W

	IT 280	Advanced Networking Technologies	5	W		IT 281	Cyber Security Capstone	5	W		IT 282	Database Management Capstone	5	W
	IT 277	Information & Data Security	5	Sp		IT 277	Information Management & Data Security	5	Sp		IT 277	Information & Data Security	5	Sp
30 additional credits =													69	
Associate of Applied Sciences Degree	BUS, IT, PLST, LOG, or ACCT		5 credits of electives from BUS, IT, PLST, LOG, or ACCT							5	F, W, Sp, S			
	BUS 110 or MATH 107		Business Math							5	F, W, Sp, S			
	BUS 164		Leadership and Human Relations							5	F, W, Sp, S			
	ENGL& 101		English Composition I							5	F, W, Sp, S			
	CMST		5 credits of electives from CMST							5	F, W, Sp, S			
25 additional distribution credits =													94	

NCS Program Electives	IT 230	Introduction to Project Management	2	F, W, Sp, S			
	IT 257	Social Media	5	F			
	IT 201	Introduction to Programming	5	W, Sp			
	IT 290	Internship	2	F, W, Sp, S			
	IT 299	Independent Study	5	F, W, Sp, S			

TECHNICAL SKILLS

CYBERSECURITY CERTIFICATE

- Framework Improving Critical Infrastructure Cybersecurity by NIST per US President Executive Order.

- Network vulnerability, penetration testing services and counter attacks intrusion detection.
- System hardening, network defense and traffic analysis to identify intrusion traffic.
- Analysis with remediation vulnerabilities, spyware, malware, exploits, and viruses.
- Risk management and defending eight domains of information security.

DATABASE MANAGEMENT ADMINISTRATION CERTIFICATE

- Microsoft Structured Query Language (SQL) Sever 2014 and 2016 with Business Intelligence.
- Program in object oriented language, SQL scripting, stored procedures, ODBC and OLE.
- Entity-relationship diagram to represent common business situations and rules.
- Normalize database model into a logical database design and physical database design.
- Database objects SQL Table, Relationships, Views, Indexes, Stored Procedures, and Triggers.

NETWORK ADMINISTRATION and SUPPORT CERTIFICATE

- Plan, document, implement, and maintain a network topology infrastructure plus Access lists on routers.
- TCP/IP addressing, subnet masks, security, role based servers to host applications or services and protocols.
- Secure remote access, troubleshoot networks, viruses, client computers and Microsoft Windows servers.
- Data redundancy server clustering, RAID, disaster recovery security plans and Support Level Agreement (SLA)s.
- Troubleshoot equipment bridges, hubs, switches, print servers, routers, punch down block and DSU/CSU units.

TECHNICAL SUPPORT and APPLICATION SUPPORT SPECIALIST CERTIFICATES

- Install, troubleshoot Microsoft Windows Server networks and services with Active Directory, TCP/IP, and DNS.
- Plan, document, configure, implement and troubleshoot Active Directory domains.
- Create user accounts, group policies, secure file and resource permissions on servers.
- Setup servers to provide local rights and permissions plus file and print sharing services.
- Microsoft Open System Interconnection (OSI), registries, backups, and customization of the operating systems.

HELPDESK and CUSTOMER SERVICE CERTIFICATES

- Information Technology Infrastructure Library (ITIL) Service Management Concepts.
- Seven-step method in evaluating, selecting, and implementing new help desk technologies.
- Troubleshoot computer installation problems, operating systems and other components.
- Build, configure, troubleshoot and install operating systems software on computer systems.

- Microsoft Office User Specialist (MOUS) Master in Microsoft Office Professional 365 and 2016.

CERTIFICATIONS

- Help Desk Certificate in Information Technology Infrastructure Library (ITIL).
- Customer Service Certificate in Microsoft Certified Solutions Associate (MCSA).
- Technical Support Certificate in COMPTIA (A+).
- Technical Support Certificate in Cisco Certified Network Associate (CCNA).
- Networking Administration and Support Certificate in Networks COMPTIA (Network+).
- Cyber Security Certificate COMPTIA (Security+), CCNA Security and CISSP Associate per NSA and CNSS.
- Application Support Specialist Certificate in Microsoft Office User Specialist (MOUS) Master.
- Database Management Administration Certificate in SQL Server with Business Intelligence (MCDBA).
- Electronic Health Information Management Certificate (e-HIM) per RHIT and RHIA 3 classes left.

Detailed Cybersecurity Skills Learned

Cybersecurity Certificate

- Framework Improving Critical Infrastructure Cybersecurity by NIST per Executive Order.
- INFOSEC technology, solutions, services, software, products and management issues.
- Network vulnerability, penetrate services and counter attacks.
- System hardening network defense and traffic analysis to identify intrusion traffic.
- Analysis and remediation spyware, malware, exploits, and viruses.
- Risk management and eight domains of information security.
- Regulatory compliance in network security and preparing for Security+.

Database Management Certificate

- Microsoft Structured Query Language (SQL) Sever 2014 with Business Intelligence.
- Program in object oriented language for interaction with Microsoft SQL database.
- Microsoft SQL scripting, stored procedures, ODBC and OLE.
- Database manipulation using both data-bound controls and programmatic connections.
- Relational database management system to secure reporting and application interface.
- Database management secure implementing code between servers and applications.

- Database analysis, design, and implement into life cycle systems development project.
- Entity-relationship diagram to represent common business situations and rules.
- Conceptual database model into a logical database design.
- Normalize to design a well-structured relationship database.
- Logical data into an efficient proposal design.
- Client-server relational database management to implement a physical database design.
- Database objects SQL Table, Relationship, View, Index, Stored Procedure, and Trigger.
- Database utilities that allow a developer to develop and optimize databases.

Network Administration & Support Certificate

- Preparing for Cisco Certified Network Associate (CCNA) and Network +.
- Plan, document, implement, and maintain a network infrastructure, TCP/IP addressing, subnet masks, security, role based servers to host applications or services and protocols.
- Secure remote access, troubleshoot networks, client computers and servers.
- Data redundancy use of server clustering and RAID.
- Research solutions and isolate technical problems by troubleshooting.
- Equipment troubleshoot bridges, hubs, switches, routers, and DSU/CSU units.
- Network protocols connectivity and use of Access Lists on routers to control traffic.
- identify connect and troubleshoot punch down block connections for network cabling.
- Setup, install, troubleshoot and configure Cisco routers and devices.
- Plan, document, configure, implement Windows server for scale, available, and reliable.
- Disaster recovery and security plan on network based Support Level Agreement (SLA).
- Standardize operating system for upgrade, patching, maintenance and security audits.
- Network topology diagram in a networked environment.
- Identify, classify, and remove viruses from servers and client computers.

Helpdesk Certificate

- Information Technology Infrastructure Library (ITIL) Service Management Concepts.
- Seven-step method evaluating, selecting, and implementing new help desk technology.
- Troubleshoot computer installation problems, operating systems and their components.
- Build, configure, troubleshoot and install operating systems software on computers.

Technical Support Certificate

- Install and troubleshooting Windows Server networks and services using Active Directory, IP addressing, TCP/IP, DNS, and WINS.
- Plan, document, configure, implement and troubleshoot Active Directory domain.
- Create user accounts, group policies, secure file and resource permissions on servers.
- Setup server to provide local rights and permissions plus file and print sharing.
- Open System Interconnection (OSI) reference model.
- Microsoft registry, backups, and the impact of customization on the operating system.

Network Administration & Support Certificate Master Skills

IT 280 Advanced Networking Technologies

- Demonstrate knowledge gained in previous courses to the plan, document, implement, and maintain a network infrastructure, TCP/IP addressing, security, and protocols.
- Demonstrate the ability to plan, document and implement role based servers to host applications or services.
- Demonstrate knowledge gained in previous courses to remotely access and maintain networks.
- Demonstrate the ability to create secure remote access connectivity to client and server systems.
- Explain the importance of data redundancy through the use of server clustering and RAID.
- Summarize a supported opinion on current and new networking technology, solutions, services, software, products and management issues.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior as needed to effectively communicate in a business and technical environment.
- Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs.
- Use industry the best practices for maintaining safety in a technical environment and how to address environmental issues and hazards.

IT 271 Internetworking

- The skills learned in IT 270 are extended to applications on wide-area networks. Equipment, such as client computers, servers, bridges, hubs, switches, routers, and DSU/CSU units, are installed and configured. While the course is not specific to one vendor, many objectives parallel those of the Cisco Certified Network Associate (CCNA) Certification.
- Explain Wide Area Network terms, concepts and technologies in relation to the implementation of Cisco networking devices.
- Explain the characteristics, network protocols, connectivity and use of Access Lists on routers to control traffic as used by network components.
- Demonstrate the ability to construct a network using IP addresses and subnet masks
- Demonstrate the skills needed to identify, connect and troubleshoot punch down block connections for network cabling.
- Classify cabling requirements, types of cabling and connectors used in internetworking Demonstrate ability to setup and configure Cisco routers.
- Prepare for the Cisco CCNA exam.
- Identify alternative methods used to troubleshoot Cisco routers.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior as needed to effectively communicate in a business and technical environment.
- Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs.
- Use industry the best practices for maintaining safety in a technical environment and how to address environmental issues and hazards.

IT 270 Service and Support Fundamentals

- Demonstrate the skills necessary to plan, document, configure and implement Windows Server with a focus on planning for business need scalability, availability, and reliability.
- Use knowledge of network protocols to troubleshoot networks.
- Construct a disaster recovery plan for a networked environment based on a Support Level Agreement (SLA).
- Construct a security plan for a networked environment based on a Support Level Agreement (SLA).
- Validate the importance of system standardization, operating system upgrade and patching, regularly scheduled maintenance and security audits for client systems, servers, and network components.
- Construct a network topology diagram for a networked environment.
- Demonstrate troubleshooting procedures using remote management of client computers and servers.
- Demonstrate the ability to identify, classify, and remove viruses from servers and client computers.
- Prepare for the Microsoft Certified Professional exam for Windows Server.

- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior as needed to effectively communicate in a business and technical environment.
- Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs.
- Use industry the best practices for maintaining safety in a technical environment and how to address environmental issues and hazards.

IT 277 Data Storage Security and Management

- Summarize the challenges found in securing today's complex information management environment while still providing high availability, reliability, and scalability.
- Explain storage technology solutions; including DAS, NAS, SAN and virtualization technologies.
- Explain Business Continuity solutions; including data backup, replication, clustering, virtualization and high availability solutions.
- Identify the roles, responsibilities and ethics required of data management professionals.
- Demonstrate the ability to validate using the processes and technologies for identifying, analyzing, and mitigating security risks in storage infrastructure.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior as needed to effectively communicate in a business and technical environment.
- Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs.
- Use industry the best practices for maintaining safety in a technical environment and how to address environmental issues and hazards.

IT 274 Network Security Fundamentals

- Information Security concepts, principals, and best practices.
- The need for Information Security.
- Common treats and exploits against information systems.
- How to identify and prioritize threats to information systems.
- Current legal, privacy, and public relations implications of Information Security, or the lack of Information Security.
- Risk Management concepts, principals, and best practices that relate to Information Security.

- How to plan for effective Information Security.
- How to design a secure network.
- How to secure servers and desktop computers.
- How to implement and sustain effective Information Security program.
- How to plan for and respond to intruders in an information system.

IT 247 Project Management

- Demonstrate creation and modification of project plans applicable to workplace projects with an IT focus.
- Implement the following nine project management knowledge areas.
 - Project Integration Management.
 - Project Scope Management.
 - Project Time Management.
 - Project Schedule Management.
 - Project Cost Management.
 - Project Quality Management.
 - Project Human Resource Management.
 - Project Communications Management.
 - Project Risk Management.
- Summarize the five phases of the Project Management Life Cycle.
 - Project Initiation Phase.
 - Project Planning Phase.
 - Project Execution Phase.
 - Project Monitoring and Controlling Phase.
 - Project Closing Phase.
- Explain the role of the Project Manager in an organization and the role of an IT team member in a project team.
- Demonstrate the use of software tools, such as Microsoft Project, to manage projects following industry best practices.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior.

Cybersecurity Certificate Master Skills

IT 281 A Cybersecurity Capstone

- Plan, document, implement, and maintain a secure network infrastructure, TCP/IP addressing, security, and protocols.
- Plan, document and implement role based servers to secure host applications or services.
- Protect remotely accessed and maintained networks.
- Create secure remote access connectivity to client and server systems.
- Explain the importance of data redundancy through the use of server clustering and RAID.
- Summarize a supported opinion on current and new INFOSEC technology, solutions, services, software, products and management issues.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior as needed to effectively communicate in a business and technical environment.
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IT 278 Incident Response & Intrusion Analysis

- Explain fundamental concepts of network vulnerabilities and attacks.
- Demonstrate the skill to penetrate service vulnerability.
- Implement counter attack measurements.
- Identify network symptoms and conditions that indicate security exposure.
- Identify the role of system hardening in network defense.
- Perform network traffic analysis to identify intrusion traffic.
- Perform analysis and remediation of spyware, malware, exploits, and viruses.
- Demonstrate knowledge gained in previous courses to secure networks.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior as needed to effectively communicate in a business and technical environment.
- Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs.
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IT 275 Security Assessment and Remediated

- Identify and define the terminology of information systems security.
- Identify the basics of risk management.
- Identify the ten domains of information security.
- Identify and define how to work with freeware that applies to the ten domains.
- Explain through case studies the role of procedures, policies, standards and guidelines.
- Define the role and impact of regulatory compliance in network security.
- Recognize available resources for analyzing a network or system compromise.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior as needed to effectively communicate in a business and technical environment.
- Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs.
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- Explain Business Continuity solutions; including data backup, replication, clustering, virtualization and high availability solutions.
- Identify the roles, responsibilities and ethics required of data management professionals.
- Demonstrate the ability to validate using the processes and technologies for identifying, analyzing, and mitigating security risks in storage infrastructure.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior as needed to effectively communicate in a business and technical environment.
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- Project Planning Phase.
- Project Execution Phase.

- Project Monitoring and Controlling Phase.
- Project Closing Phase.
- Explain the role of the Project Manager in an organization and the role of an IT team member in a project team.
- Demonstrate the use of software tools, such as Microsoft Project, to manage projects following industry best practices.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior.

Database Management Certificate Master Skills

IT 282

IT 249-Database Programming

- Perform programming in object oriented language for interaction with an MS SQL database.
- Demonstrate the use of MS SQL scripting and stored procedures.
- Explain ODBC and OLE.
- Perform practical application of common tools focus on database manipulation using both data-bound controls and programmatic connections.
- Use a client-server based relational database management system to implement a secure reporting and application interface.
- Explain the database management best practices for securely implementing code between servers and applications.
- Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior as needed to effectively communicate in a business and technical environment.

IT 246 SQL Database Implementation

- Explain the advantages of the database approach compared to traditional file systems.
- Explain how a database analysis, design, and implementation fit into the life cycle of a systems development project.
- Demonstrate use of an entity-relationship diagram to represent common business situations and express business rules.
- Interpret a conceptual database model into a logical database design.
- Use normalization to design a well-structured relation.
- Interpret the logical description of data into an efficient proposal design.

- Use a client-server based relational database management system to implement a physical database design.
- Demonstrate the use of database objects using a graphical user interface and Structured Query Language; Tables, Relationships, Views, Indexes, Stored Procedures, and Triggers.
- Describe database utilities that allow a developer to develop and optimize databases.
- Explain the role of the database administration in the current business environment.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior.

IT 277 Data Storage Security and Management

- Summarize the challenges found in securing today's complex information management environment while still providing high availability, reliability, and scalability.
- Explain storage technology solutions; including DAS, NAS, SAN and virtualization technologies.
- Explain Business Continuity solutions; including data backup, replication, clustering, virtualization and high availability solutions.
- Identify the roles, responsibilities and ethics required of data management professionals.
- Demonstrate the ability to validate using the processes and technologies for identifying, analyzing, and mitigating security risks in storage infrastructure.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior as needed to effectively communicate in a business and technical environment.
- Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs.
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- How to plan for effective Information Security.
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IT 247 Project Management

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- Summarize the five phases of the Project Management Life Cycle.
 - Project Initiation Phase.
 - Project Planning Phase.
 - Project Execution Phase.
 - Project Monitoring and Controlling Phase.
 - Project Closing Phase.
- Explain the role of the Project Manager in an organization and the role of an IT team member in a project team.
- Demonstrate the use of software tools, such as Microsoft Project, to manage projects following industry best practices.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior.

Helpdesk Certificate Master Skills

IT 112 Introduction to Help Desk Operations

- Understand Help Desk concepts including the historical context, the role of the Help Desk with the technical support department, the components of a successful Help Desk including customer service.
- Understand different types of customer service and support organizations, the different roles played by internal and external Help Desk operations, the differences between centralized and decentralized Help Desk operations, and how the Help Desk impacts an organizations financial performance.
- Understand the business, technical, soft, and self-management skills required by successful Help Desk personnel.
- Understand the role “team work” plays in successful Help Desk operations.
- Understand the most common processes and procedures used in Help Desk operations.
- Understand how to apply leading quality improvement concepts to the Help Desk environment.
- Understand the factors that influence the location and layout of the Help Desk including consideration of ergonomics, organization, and effective teamwork.
- Introduced to the ITIL Service Management Concept.
- Introduced to a wide array of tools and technologies used by Help Desk operations such as communication tools and management tools.
- Introduced to a seven-step method for evaluating, selecting, and implementing new help desk technology.
- Introduced to performance measures applicable to the Help Desk. This includes using the Help Desk to collect information about the nature of Help Desk activities to support continuous process improvement throughout the enterprise.
- Introduced to current industry trends relating to the role of the Help Desk, the career opportunities within the Help Desk, and tips for those interested in transitioning into a Help Desk position.

IT 110 Operating Systems I

- Define and explain terms, concepts and technologies applied to microcomputer.
- Troubleshoot computer installation problems.
- Demonstrate skills needed to work on computer systems and their components.
- Demonstrate skills needed to install operating systems.
- Demonstrate skills needed to install & use troubleshooting software.
- Prepare for the A+ Certification testing.
- Troubleshooting process.
- Safety and environmental issues.
- Basic safety procedures around electricity and various other hazards.

- Understand the proper component disposal methods.
- Environmentally sound choices.
- Demonstrate effective interpersonal skills, teamwork, professionalism and communication skills.
- Understand basic customer service and support best practices.
- Understand privacy, confidentiality and respect in the workplace.
- Participate in small team projects including research, time management, presentation, and interpersonal communication.

IT 102 Microcomputer Fundamentals

- Define and explain terms, concepts and technologies applied to microcomputers.
- Build, configure and troubleshoot a computer.
- Demonstrate skills needed to work on computer systems and their components.
- Demonstrate skills needed to install operating systems.
- Demonstrate skills needed to install & use troubleshooting software.
- Prepare for the A+ Certification testing.
- Troubleshooting process.
- Safety and environmental issues.
- Basic safety procedures around electricity and various other hazards.
- Understand the proper component disposal methods.
- Environmentally sound choices.
- Demonstrate effective interpersonal skills, teamwork, professionalism and communication skills.
- Understand basic customer service and support best practices.
- Understand privacy, confidentiality and respect in the workplace.
- Participate in small team projects including research, time management, presentation, and interpersonal communication.

CU 105 Word I and Excel I

- Demonstrate the ability to use Microsoft Word to edit and modify documents including formatting text, paragraphs, and pages.
- Demonstrate the ability to use Microsoft Word to insert graphics, charts, and tables.
- Demonstrate the ability to use Microsoft Word to manage files.
- Demonstrate the ability to use Microsoft Word to complete a mail merge.
- Demonstrate the ability to use Microsoft Excel to create, modify, and format workbooks and worksheets.

- Demonstrate the ability to use formulas and functions.
- Demonstrate the ability to insert and modify tables, charts, and graphics.

CU 108 Microsoft Outlook

- Demonstrate the ability to use Microsoft Outlook to e-mail, contacts, calendar, and scheduling.
- Identify the features of Microsoft Outlook; e-mail, contacts, calendar, and scheduling.
- Explain how to customize settings in Microsoft Outlook.
- Recognize different types of security risks and the methods of reducing these risks.
- Discover how to best use the wizards, correction and helper features of the application.
- Describe communication etiquette to online learning and communication.
- Demonstrate the ability to use Microsoft Outlook to share files via printing, email and copy to portable media.

Technical Support Certificate Master Skills

IT 262 Technical Support of Windows Networks

- Demonstrate the ability to develop effective and accurate information technology process documentation.
- Demonstrate installation and troubleshooting of Windows Server networks and services using Active Directory, IP addressing, TCP/IP, DNS, and WINS.
- Identify the types and components of file systems available in the Windows operating system and perform common disk management skills.
- Demonstrate the skills necessary to plan, document, configure, implement and troubleshoot an Active Directory domain, user accounts, group policies and secure file and resource permissions to servers.
- Prepare for the Microsoft Certified Professional exam for Windows Server.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior as needed to effectively communicate in a business and technical environment.
- Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs.
- Use industry the best practices for maintaining safety in a technical environment and how to address environmental issues and hazards.

IT 261 Administration of Networks

- Explain the responsibilities ethics of a Network Administrator.
- Identify and describe the components and network services of a LAN.
- Plan, design, complete, and configure a Microsoft server Active Directory installation with supporting small business components.
- Compare antivirus programs and installation procedures in a networked environment.
- Identify security concepts and apply security best practices as they apply to server operating systems and networks.
- Demonstrate the skills necessary to maintain a Microsoft server; including install and remove server software, update the server operating system, perform backup, restore, access system components and manage a server remotely.
- Demonstrate the skills necessary to setup the server to provide file and print sharing.
- Prepare for the Network + Certification.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior.
- Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs.
- Use industry the best practices for maintaining safety in a technical environment and how to address environmental issues and hazards.

IT 260 Client/Server Technology – LANs

- Explain terms and concepts applied to computer networking.
- Compare types of networks, network topologies and components.
- Demonstrate and document the basic structure, maintenance and troubleshooting of a Local Area Network.
- Explain the Open System Interconnection (OSI) reference model.
- Explain and interpret logical sub netting of networks.
- Compare the requirements for secure, efficient and reliable data communications and transmission media specifications.
- Explain internetworking, the function of internetworking devices and TCP/IP concepts.
- Summarize Service Level Agreements (SLA) and how they apply to servers, networks, telecom systems and support agreements.
- Explain security concepts and apply security best practices as they apply to server operating systems and networks.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior.

- Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs.
- Use industry the best practices for maintaining safety in a technical environment and how to address environmental issues and hazards.

IT 210 Operating Systems II

- Identify the relationship of an operating system to system hardware.
- Compare and contrast the differences in graphical user interface, installation process, components, functionality and compatibility between Microsoft, Linux and other operating systems.
- Summarize the best practices for maintaining the Microsoft registry, backups, and the impact of customization on the operating system.
- Demonstrate and document the installation process of Microsoft, Linux and other operating systems.
- Install, configure and connect the operating system to a networked environment to shared resources through the management of local rights and permissions.
- Identify security concepts as they apply to operating systems and apply security best practices.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior.
- Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs.
- Recognize the best practices for maintaining safety in a technical environment and how to address environmental issues and hazards.

System Administration Certificate Master Skills

IT 270 Service and Support Fundamentals

- Demonstrate the skills necessary to plan, document, configure and implement Windows Server with a focus on planning for business need scalability, availability, and reliability.
- Use knowledge of network protocols to troubleshoot networks.
- Construct a disaster recovery plan for a networked environment based on a Support Level Agreement (SLA).
- Construct a security plan for a networked environment based on a Support Level Agreement (SLA).

- Validate the importance of system standardization, operating system upgrade and patching, regularly scheduled maintenance and security audits for client systems, servers, and network components.
- Construct a network topology diagram for a networked environment.
- Demonstrate troubleshooting procedures using remote management of client computers and servers.
- Demonstrate the ability to identify, classify, and remove viruses from servers and client computers.
- Prepare for the Microsoft Certified Professional exam for Windows Server.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior as needed to effectively communicate in a business and technical environment.
- Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs.
- Use industry the best practices for maintaining safety in a technical environment and how to address environmental issues and hazards.

IT 262 Technical Support of Windows Networks

- Demonstrate the ability to develop effective and accurate information technology process documentation.
- Demonstrate installation and troubleshooting of Windows Server networks and services using Active Directory, IP addressing, TCP/IP, DNS, and WINS.
- Identify the types and components of file systems available in the Windows operating system and perform common disk management skills.
- Demonstrate the skills necessary to plan, document, configure, implement and troubleshoot an Active Directory domain, user accounts, group policies and secure file and resource permissions to servers.
- Prepare for the Microsoft Certified Professional exam for Windows Server.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior as needed to effectively communicate in a business and technical environment.
- Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs.
- Use industry the best practices for maintaining safety in a technical environment and how to address environmental issues and hazards.

IT 261 Administration of Networks

- Explain the responsibilities ethics of a Network Administrator.
- Identify and describe the components and network services of a LAN.
- Plan, design, complete, and configure a Microsoft server Active Directory installation with supporting small business components.
- Compare antivirus programs and installation procedures in a networked environment.
- Identify security concepts and apply security best practices as they apply to server operating systems and networks.
- Demonstrate the skills necessary to maintain a Microsoft server; including install and remove server software, update the server operating system, perform backup, restore, access system components and manage a server remotely.
- Demonstrate the skills necessary to setup the server to provide file and print sharing.
- Prepare for the Network + Certification.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior.
- Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs.
- Use industry the best practices for maintaining safety in a technical environment and how to address environmental issues and hazards.

IT 260 Client/Server Technology – LANs

- Explain terms and concepts applied to computer networking.
- Compare types of networks, network topologies and components.
- Demonstrate and document the basic structure, maintenance and troubleshooting of a Local Area Network.
- Explain the Open System Interconnection (OSI) reference model.
- Explain and interpret logical sub netting of networks.
- Compare the requirements for secure, efficient and reliable data communications and transmission media specifications.
- Explain internetworking, the function of internetworking devices and TCP/IP concepts.
- Summarize Service Level Agreements (SLA) and how they apply to servers, networks, telecom systems and support agreements.
- Explain security concepts and apply security best practices as they apply to server operating systems and networks.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior.
- Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs.

- Use industry the best practices for maintaining safety in a technical environment and how to address environmental issues and hazards.

IT 210 Operating Systems II

- Identify the relationship of an operating system to system hardware.
- Compare and contrast the differences in graphical user interface, installation process, components, functionality and compatibility between Microsoft, Linux and other operating systems.
- Summarize the best practices for maintaining the Microsoft registry, backups, and the impact of customization on the operating system.
- Demonstrate and document the installation process of Microsoft, Linux and other operating systems.
- Install, configure and connect the operating system to a networked environment to shared resources through the management of local rights and permissions.
- Identify security concepts as they apply to operating systems and apply security best practices.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior.
- Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs.
- Recognize the best practices for maintaining safety in a technical environment and how to address environmental issues and hazards.

IT 110 Operating Systems I

- Define and explain terms, concepts and technologies applied to microcomputer.
- Troubleshoot computer installation problems.
- Demonstrate skills needed to work on computer systems and their components.
- Demonstrate skills needed to install operating systems.
- Demonstrate skills needed to install & use troubleshooting software.
- Prepare for the A+ Certification testing.
- Troubleshooting process.
- Safety and environmental issues.
- Basic safety procedures around electricity and various other hazards.
- Understand the proper component disposal methods.

- Environmentally sound choices.
- Demonstrate effective interpersonal skills, teamwork, professionalism and communication skills.
- Understand basic customer service and support best practices.
- Understand privacy, confidentiality and respect in the workplace.
- Participate in small team projects including research, time management, presentation, and interpersonal communication.

Customer Service Certificate Master Skills

IT 112 Introduction to Help Desk Operations

- Understand Help Desk concepts including the historical context, the role of the Help Desk with the technical support department, the components of a successful Help Desk including customer service.
- Understand different types of customer service and support organizations, the different roles played by internal and external Help Desk operations, the differences between centralized and decentralized Help Desk operations, and how the Help Desk impacts an organizations financial performance.
- Understand the business, technical, soft, and self-management skills required by successful Help Desk personnel.
- Understand the role “team work” plays in successful Help Desk operations.
- Understand the most common processes and procedures used in Help Desk operations.
- Understand how to apply leading quality improvement concepts to the Help Desk environment.
- Understand the factors that influence the location and layout of the Help Desk including consideration of ergonomics, organization, and effective teamwork.
- Introduced to the ITIL Service Management Concept.
- Introduced to a wide array of tools and technologies used by Help Desk operations such as communication tools and management tools.
- Introduced to a seven-step method for evaluating, selecting, and implementing new help desk technology.
- Introduced to performance measures applicable to the Help Desk. This includes using the Help Desk to collect information about the nature of Help Desk activities to support continuous process improvement throughout the enterprise.
- Introduced to current industry trends relating to the role of the Help Desk, the career opportunities within the Help Desk, and tips for those interested in transitioning into a Help Desk position.

IT 270 Service and Support Fundamentals

- Demonstrate the skills necessary to plan, document, configure and implement Windows Server with a focus on planning for business need scalability, availability, and reliability.
- Use knowledge of network protocols to troubleshoot networks.
- Construct a disaster recovery plan for a networked environment based on a Support Level Agreement (SLA).
- Construct a security plan for a networked environment based on a Support Level Agreement (SLA).
- Validate the importance of system standardization, operating system upgrade and patching, regularly scheduled maintenance and security audits for client systems, servers, and network components.
- Construct a network topology diagram for a networked environment.
- Demonstrate troubleshooting procedures using remote management of client computers and servers.
- Demonstrate the ability to identify, classify, and remove viruses from servers and client computers.
- Prepare for the Microsoft Certified Professional exam for Windows Server.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior as needed to effectively communicate in a business and technical environment.
- Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs.
- Use industry the best practices for maintaining safety in a technical environment and how to address environmental issues and hazards.

IT 262 Technical Support of Windows Networks

- Demonstrate the ability to develop effective and accurate information technology process documentation.
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- Identify the types and components of file systems available in the Windows operating system and perform common disk management skills.
- Demonstrate the skills necessary to plan, document, configure, implement and troubleshoot an Active Directory domain, user accounts, group policies and secure file and resource permissions to servers.
- Prepare for the Microsoft Certified Professional exam for Windows Server.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior as needed to effectively communicate in a business and technical environment.
- Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs.

- Use industry the best practices for maintaining safety in a technical environment and how to address environmental issues and hazards.

IT 261 Administration of Networks

- Explain the responsibilities ethics of a Network Administrator.
- Identify and describe the components and network services of a LAN.
- Plan, design, complete, and configure a Microsoft server Active Directory installation with supporting small business components.
- Compare antivirus programs and installation procedures in a networked environment.
- Identify security concepts and apply security best practices as they apply to server operating systems and networks.
- Demonstrate the skills necessary to maintain a Microsoft server; including install and remove server software, update the server operating system, perform backup, restore, access system components and manage a server remotely.
- Demonstrate the skills necessary to setup the server to provide file and print sharing.
- Prepare for the Network + Certification.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior.
- Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs.
- Use industry the best practices for maintaining safety in a technical environment and how to address environmental issues and hazards.

IT 260 Client/Server Technology – LANs

- Explain terms and concepts applied to computer networking.
- Compare types of networks, network topologies and components.
- Demonstrate and document the basic structure, maintenance and troubleshooting of a Local Area Network.
- Explain the Open System Interconnection (OSI) reference model.
- Explain and interpret logical sub netting of networks.
- Compare the requirements for secure, efficient and reliable data communications and transmission media specifications.
- Explain internetworking, the function of internetworking devices and TCP/IP concepts.
- Summarize Service Level Agreements (SLA) and how they apply to servers, networks, telecom systems and support agreements.

- Explain security concepts and apply security best practices as they apply to server operating systems and networks.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior.
- Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs.
- Use industry the best practices for maintaining safety in a technical environment and how to address environmental issues and hazards.

IT 210 Operating Systems II

- Identify the relationship of an operating system to system hardware.
- Compare and contrast the differences in graphical user interface, installation process, components, functionality and compatibility between Microsoft, Linux and other operating systems.
- Summarize the best practices for maintaining the Microsoft registry, backups, and the impact of customization on the operating system.
- Demonstrate and document the installation process of Microsoft, Linux and other operating systems.
- Install, configure and connect the operating system to a networked environment to shared resources through the management of local rights and permissions.
- Identify security concepts as they apply to operating systems and apply security best practices.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior.
- Construct critical questions to identify needs, research solutions, isolate technical problems by applying the troubleshooting process to technical issues and business needs.
- Recognize the best practices for maintaining safety in a technical environment and how to address environmental issues and hazards.

IT 110 Operating Systems I

- Define and explain terms, concepts and technologies applied to microcomputer.
- Troubleshoot computer installation problems.
- Demonstrate skills needed to work on computer systems and their components.
- Demonstrate skills needed to install operating systems.
- Demonstrate skills needed to install & use troubleshooting software.
- Prepare for the A+ Certification testing.

- Troubleshooting process.
- Safety and environmental issues.
- Basic safety procedures around electricity and various other hazards.
- Understand the proper component disposal methods.
- Environmentally sound choices.
- Demonstrate effective interpersonal skills, teamwork, professionalism and communication skills.
- Understand basic customer service and support best practices.
- Understand privacy, confidentiality and respect in the workplace.
- Participate in small team projects including research, time management, presentation, and interpersonal communication.

IT 102 Microcomputer Fundamentals

- Define and explain terms, concepts and technologies applied to microcomputers.
- Build, configure and troubleshoot a computer.
- Demonstrate skills needed to work on computer systems and their components.
- Demonstrate skills needed to install operating systems.
- Demonstrate skills needed to install & use troubleshooting software.
- Prepare for the A+ Certification testing.
- Troubleshooting process.
- Safety and environmental issues.
- Basic safety procedures around electricity and various other hazards.
- Understand the proper component disposal methods.
- Environmentally sound choices.
- Demonstrate effective interpersonal skills, teamwork, professionalism and communication skills.
- Understand basic customer service and support best practices.
- Understand privacy, confidentiality and respect in the workplace.
- Participate in small team projects including research, time management, presentation, and interpersonal communication.

Application Support Specialist Microsoft Office User Specialist (MOUS) Certificate Master Skills

CU 102 Word I

- Demonstrate the ability to use Microsoft Word to edit and modify documents including formatting text, paragraphs, and pages.
- Demonstrate the ability to use Microsoft Word to insert graphics, charts, and tables.
- Demonstrate the ability to use Microsoft Word to manage files.
- Demonstrate the ability to use Microsoft Word to complete a mail merge.

CU 202 Word II

- Demonstrate the ability to use Microsoft Desktop Excel v2013 to create and modify multiple workbooks of intermediate level complexity; including modifying format of text and numbers, formatting and inserting graphics, charts and tables.
- Demonstrate the ability to create and use Microsoft Excel templates.
- Demonstrate the ability to import, export and copy data.
- Execute the use of Named Ranges.
- Demonstrate the ability to use Microsoft Desktop Excel v2013 to manage files and identify different file types and their uses.
- Recognize how to use advanced features such as additional toolbars, macros and Analysis Tools within Microsoft Desktop Excel v2013.
- Demonstrate the ability to use Microsoft Desktop Excel v2013 to share files and data via printing, email and copy to portable media in collaboration with Workgroups.

CU 103 Excel I

- Demonstrate the ability to use Microsoft Excel to create, modify, and format workbooks and worksheets.
- Demonstrate the ability to use formulas and functions.
- Demonstrate the ability to insert and modify tables, charts, and graphics.

CU 203 Excel II

- Demonstrate effective verbal and written communication skills necessary in information technology.
- Exemplify professional and ethical behaviors required to perform effectively as an information technology team member within an organization.
- Implement critical thinking skills to provide sound solutions for information technology issues.
- Plan to take responsibility for own lifelong learning including anticipation and adaptation to ever-changing business and technology environments.

- Demonstrate an integrated, comprehensive proficiency in the content area of information technology; interpolate this knowledge to the real world.
- Demonstrate the ability to use Microsoft Excel to create and modify multiple workbooks of intermediate level complexity; including modifying format of text and numbers, formatting and inserting graphics, charts and tables.
- Demonstrate the ability to create and use Microsoft Excel templates.
- Demonstrate the ability to import, export and copy data.
- Execute the use of Named Ranges.
- Demonstrate the ability to use Microsoft Excel to manage files and identify different file types and their uses.
- Recognize how to use advanced features such as additional toolbars, macros and Analysis Tools within Microsoft Excel.
- Demonstrate the ability to use Microsoft Excel to share files and data via printing, email and copy to portable media in collaboration with Workgroups.

CU 104 PowerPoint I

- Demonstrate the ability to use Microsoft PowerPoint to create and modify presentation; including modifying presentation theme and inserting graphics, charts and tables.
- Demonstrate the ability to use Microsoft PowerPoint to manage files and identify different file types and their uses.
- Demonstrate the ability to insert clips, videos, audio, and other objects.
- Recognize how to use the wizards, transition, and animation panes correction and helper features of the application.
- Demonstrate the ability to use Microsoft PowerPoint to share files via printing, email and copy to portable media.

CU 110 Access I

- Demonstrate the ability to use Microsoft Access to create and modify databases.
- Demonstrate the ability to create and modify database tables.
- Demonstrate the ability to create and modify database table relationships.
- Demonstrate the ability to create and modify database forms, reports, labels and charts.
- Discover how to best use the wizards, correction and helper features of the application.
- Demonstrate the ability to perform queries and apply filters.
- Demonstrate the ability to use Microsoft Access to share files and data via import, export, printing, email and copy to portable media.

CU 210 Access II

- Demonstrate effective verbal and written communication skills necessary in information technology.
- Exemplify professional and ethical behaviors required to perform effectively as an information technology team member within an organization.
- Implement critical thinking skills to provide sound solutions for information technology issues.
- Plan to take responsibility for own lifelong learning including anticipation and adaptation to ever-changing business and technology environments.
- Demonstrate an integrated, comprehensive proficiency in the content area of information technology; interpolate this knowledge to the real world.
- Demonstrate the ability to use Microsoft Access to share information with other Microsoft Office Suite programs.
- Demonstrate the ability to create and modify database access pages.
- Demonstrate the ability to perform advanced queries and apply filters.
- Demonstrate the ability to create and modify advanced database forms, reports, labels and charts.
- Recognize how to manage database objects.
- Demonstrate the ability to create and modify macros.
- Demonstrate the ability to create and modify modules.
- Execute database management best practices using Microsoft Access features.

CU 108 Microsoft Outlook

- Demonstrate the ability to use Microsoft Outlook to e-mail, contacts, calendar, and scheduling.
- Identify the features of Microsoft Outlook; e-mail, contacts, calendar, and scheduling.
- Explain how to customize settings in Microsoft Outlook.
- Recognize different types of security risks and the methods of reducing these risks.
- Discover how to best use the wizards, correction and helper features of the application.
- Describe communication etiquette to online learning and communication.
- Demonstrate the ability to use Microsoft Outlook to share files via printing, email and copy to portable media.

IT 112 Introduction to Help Desk Operations

- Understand Help Desk concepts including the historical context, the role of the Help Desk with the technical support department, the components of a successful Help Desk including customer service.
- Understand different types of customer service and support organizations, the different roles played by internal and external Help Desk operations, the differences between centralized and decentralized Help Desk operations, and how the Help Desk impacts an organizations financial performance.
- Understand the business, technical, soft, and self-management skills required by successful Help Desk personnel.
- Understand the role “team work” plays in successful Help Desk operations.
- Understand the most common processes and procedures used in Help Desk operations.
- Understand how to apply leading quality improvement concepts to the Help Desk environment.
- Understand the factors that influence the location and layout of the Help Desk including consideration of ergonomics, organization, and effective teamwork.
- Introduced to the ITIL Service Management Concept.
- Introduced to a wide array of tools and technologies used by Help Desk operations such as communication tools and management tools.
- Introduced to a seven-step method for evaluating, selecting, and implementing new help desk technology.
- Introduced to performance measures applicable to the Help Desk. This includes using the Help Desk to collect information about the nature of Help Desk activities to support continuous process improvement throughout the enterprise.
- Introduced to current industry trends relating to the role of the Help Desk, the career opportunities within the Help Desk, and tips for those interested in transitioning into a Help Desk position.

IT 230 Introduction to Project Management

- Explain the need for Project Management.
- Describe the benefits of Project Management.
- Describe how Microsoft Project is used to document a project.
- Demonstrate the use of Microsoft Project to perform fundamental project documentation.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior.

Electronic Health Information Management (e-HIM) Certificate Master Skills

HIT 125

HIT 110 Health Care Delivery Systems

- Identify the roles and responsibilities of various providers and disciplines, to support documentation requirements throughout the continuum of healthcare.
- Identify medical staff by-laws, and hospital by-laws.
- Identify payment methodologies used in healthcare reimbursement.
- Identify policies and procedures to ensure organizational compliance with regulations and standards (HIPAA, ARRA).
- Identify healthcare providers and discipline roles.
- Identify the roles for HIM in healthcare delivery.
- Identify CDC, State, local, and federal policies relating to healthcare delivery.
- Describe the differing types of organizations, services, and personnel and their interrelationships across the health care delivery system (managed care organizations, ACOs, payers/providers, payers' impact on delivery systems, biotech, medical devices).
- Identify ethical standards of practice (AHIMA Code of Ethics).
- Identify the consequences of a breach of healthcare ethics.
- Identify and apply policies and procedures surrounding Information Governance, to include classification systems, health record content and documentation, data governance, data management, and secondary data sources.
- Identify and adhere to systems that ensure the protection of health information, to include health law, data privacy, confidentiality and security, and the release of information.
- Explain data and use technology found in informatics, to include health information technologies, information management strategic planning, analytics and decision support, health care statistics, research methods, consumer informatics, health information exchange, and information integrity and data quality.
- Apply policies and procedures for the use of data required in healthcare reimbursement and evaluate the revenue cycle management process.
- Identify policies and apply procedures for compliance of healthcare regulatory requirements, to include medical coding, fraud surveillance, and clinical documentation improvement.
- Identify leadership models, theories, and skills required for successful leadership to include the areas of change management, work design and process improvement, human resource management, training and development, strategic and organizational management, financial management, project management, vendor/contract management, enterprise information management, all of which comply with the ethical standards of practice.

- Identify major concepts in supporting body of knowledge to include pathophysiology and pharmacology, anatomy and physiology, medical terminology, and computer applications.
- Prepare effective written and oral communication.

HIT 105 Comprehensive Medical Terminology

- Form and analyze medical terms after memorizing word elements (suffixes, roots, and prefixes).
- Form singular, plural, and adjective forms of medical terms.
- Spell medical terms.
- Pronounce medical terms.
- Define medical terms.
- Identify selected and significant medical abbreviations and symbols.
- Decipher terms used in medical reports.
- Identify frequently encountered diagnostic and therapeutic procedures and describe conditions for which they are performed.
- Identify basic structures of anatomy and functions of physiology.
- Apply the above listed learning objectives to the following body systems.
- Musculoskeletal System (Orthopedics).
- Cardiovascular System (Cardiology).
- Pulmonary System (Pulmonology).
- Digestive System (Gastroenterology).
- Nervous System (Neurology).
- Urinary System (Urology).
- Male Reproductive System (Male Genito urology).
- Female Reproductive System (Gynecology and Obstetrics).
- Endocrine System (Endocrinology).
- Upon successful completion of the Associates in Applied Sciences Degree in Health Information Management students will.
- Apply the American Health Information Association HIM Associate Degree Entry-Level Competencies within the following domains and sub-domains.
- Health Data Management.
- Health Data Structure, Content and Standards.
- Healthcare Information Requirements and Standards.
- Clinical Classification Systems.

- Reimbursement Methodologies.
- Health Statistics, Biomedical Research, and Quality Management.
- Healthcare Statistics and Research.
- Quality Management and Performance Improvement.
- Health Services Organization and Delivery.
- Healthcare Delivery Systems.
- Healthcare Privacy, Confidentiality, Legal and Ethical Issues.
- Information Technology and Systems.
- Information and Communication Technologies.
- Data, Information, and File Structures.
- Data Storage and Retrieval.
- Data Security.
- Healthcare Information Systems.
- Organizational Resources.
- Human Resources.
- Financial and Physical Resources.
- Identify the cultural diversity found in healthcare and the value of understanding these differences to work together in a multicultural environment.
- Accept responsibility for their own learning and act in an ethical manner.

IT 246 SQL Database Implementation

- Explain the advantages of the database approach compared to traditional file systems.
- Explain how a database analysis, design, and implementation fit into the life cycle of a systems development project.
- Demonstrate use of an entity-relationship diagram to represent common business situations and express business rules.
- Interpret a conceptual database model into a logical database design.
- Use normalization to design a well-structured relation.
- Interpret the logical description of data into an efficient proposal design.
- Use a client-server based relational database management system to implement a physical database design.
- Demonstrate the use of database objects using a graphical user interface and Structured Query Language; Tables, Relationships, Views, Indexes, Stored Procedures, and Triggers.
- Describe database utilities that allow a developer to develop and optimize databases.

- Explain the role of the database administration in the current business environment.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior.

IT 274 Network Security Fundamentals

- Information Security concepts, principals, and best practices.
- The need for Information Security.
- Common treats and exploits against information systems.
- How to identify and prioritize threats to information systems.
- Current legal, privacy, and public relations implications of Information Security, or the lack of Information Security.
- Risk Management concepts, principals, and best practices that relate to Information Security.
- How to plan for effective Information Security.
- How to design a secure network.
- How to secure servers and desktop computers.
- How to implement and sustain effective Information Security program.
- How to plan for and respond to intruders in an information system.

IT 230 Introduction to Project Management

- Explain the need for Project Management.
- Describe the benefits of Project Management.
- Describe how Microsoft Project is used to document a project.
- Demonstrate the use of Microsoft Project to perform fundamental project documentation.
- Demonstrate effective interpersonal skills involving teamwork, professionalism and ethical behavior.

CU 102 Word I

- Demonstrate the ability to use Microsoft Word to edit and modify documents including formatting text, paragraphs, and pages.
- Demonstrate the ability to use Microsoft Word to insert graphics, charts, and tables.
- Demonstrate the ability to use Microsoft Word to manage files.
- Demonstrate the ability to use Microsoft Word to complete a mail merge.

CU 202 Word II

- Demonstrate the ability to use Microsoft Desktop Excel v2013 to create and modify multiple workbooks of intermediate level complexity; including modifying format of text and numbers, formatting and inserting graphics, charts and tables.
- Demonstrate the ability to create and use Microsoft Excel templates.
- Demonstrate the ability to import, export and copy data.
- Execute the use of Named Ranges.
- Demonstrate the ability to use Microsoft Desktop Excel v2013 to manage files and identify different file types and their uses.
- Recognize how to use advanced features such as additional toolbars, macros and Analysis Tools within Microsoft Desktop Excel v2013.
- Demonstrate the ability to use Microsoft Desktop Excel v2013 to share files and data via printing, email and copy to portable media in collaboration with Workgroups.

CU 103 Excel I

- Demonstrate the ability to use Microsoft Excel to create, modify, and format workbooks and worksheets.
- Demonstrate the ability to use formulas and functions.
- Demonstrate the ability to insert and modify tables, charts, and graphics.

CU 203 Excel II

- Demonstrate effective verbal and written communication skills necessary in information technology.
- Exemplify professional and ethical behaviors required to perform effectively as an information technology team member within an organization.
- Implement critical thinking skills to provide sound solutions for information technology issues.
- Plan to take responsibility for own lifelong learning including anticipation and adaptation to ever-changing business and technology environments.
- Demonstrate an integrated, comprehensive proficiency in the content area of information technology; interpolate this knowledge to the real world.
- Demonstrate the ability to use Microsoft Excel to create and modify multiple workbooks of intermediate level complexity; including modifying format of text and numbers, formatting and inserting graphics, charts and tables.
- Demonstrate the ability to create and use Microsoft Excel templates.

- Demonstrate the ability to import, export and copy data.
- Execute the use of Named Ranges.
- Demonstrate the ability to use Microsoft Excel to manage files and identify different file types and their uses.
- Recognize how to use advanced features such as additional toolbars, macros and Analysis Tools within Microsoft Excel.
- Demonstrate the ability to use Microsoft Excel to share files and data via printing, email and copy to portable media in collaboration with Workgroups.

CU 104 PowerPoint I

- Demonstrate the ability to use Microsoft PowerPoint to create and modify presentation; including modifying presentation theme and inserting graphics, charts and tables.
- Demonstrate the ability to use Microsoft PowerPoint to manage files and identify different file types and their uses.
- Demonstrate the ability to insert clips, videos, audio, and other objects.
- Recognize how to use the wizards, transition, and animation panes correction and helper features of the application.
- Demonstrate the ability to use Microsoft PowerPoint to share files via printing, email and copy to portable media.

CU 110 Access I

- Demonstrate the ability to use Microsoft Access to create and modify databases.
- Demonstrate the ability to create and modify database tables.
- Demonstrate the ability to create and modify database table relationships.
- Demonstrate the ability to create and modify database forms, reports, labels and charts.
- Discover how to best use the wizards, correction and helper features of the application.
- Demonstrate the ability to perform queries and apply filters.
- Demonstrate the ability to use Microsoft Access to share files and data via import, export, printing, email and copy to portable media.

CU 210 Access II

- Demonstrate effective verbal and written communication skills necessary in information technology.
- Exemplify professional and ethical behaviors required to perform effectively as an information technology team member within an organization.

- Implement critical thinking skills to provide sound solutions for information technology issues.
- Plan to take responsibility for own lifelong learning including anticipation and adaptation to ever-changing business and technology environments.
- Demonstrate an integrated, comprehensive proficiency in the content area of information technology; interpolate this knowledge to the real world.
- Demonstrate the ability to use Microsoft Access to share information with other Microsoft Office Suite programs.
- Demonstrate the ability to create and modify database access pages.
- Demonstrate the ability to perform advanced queries and apply filters.
- Demonstrate the ability to create and modify advanced database forms, reports, labels and charts.
- Recognize how to manage database objects.
- Demonstrate the ability to create and modify macros.
- Demonstrate the ability to create and modify modules.
- Execute database management best practices using Microsoft Access features.

CU 108 Microsoft Outlook

- Demonstrate the ability to use Microsoft Outlook to e-mail, contacts, calendar, and scheduling.
- Identify the features of Microsoft Outlook; e-mail, contacts, calendar, and scheduling.
- Explain how to customize settings in Microsoft Outlook.
- Recognize different types of security risks and the methods of reducing these risks.
- Discover how to best use the wizards, correction and helper features of the application.
- Describe communication etiquette to online learning and communication.
- Demonstrate the ability to use Microsoft Outlook to share files via printing, email and copy to portable media.

2) “provide a report to the President with findings and recommendations regarding how to support the growth and sustainment of the Nation's cybersecurity workforce in both the public and private sectors.”

- 1. Have all Business, Government, Nonprofit, Military, and Education to recruit and promote Cybersecurity graduates into Cybersecurity jobs they cannot find employees.**
- 2. National Security Agency (NSA) and National Science Foundation (NSF) funded grants to recruit heavy from graduates from these approved programs. Promote and recruit from these programs on a regular basis. Industry and**

Government said they cannot find Cybersecurity people but do not even recruit from their own program they give out the grants for in Cybersecurity.

- 3. Have an easier way for all Veterans (regardless of when they served) too transition into Cybersecurity jobs from active duty or retired. Plus, open up all transition programs to anyone who has served not just ones getting out in a year into Cybersecurity jobs.**
- 4. Have Office of Personnel Management (OPM) change the requirements for entry into government for Cybersecurity or other High demand fields into a paid apprenticeship up to the market value in the local area for that skill set.**
- 5. Have all states create a Civilian Cybersecurity Volunteer force that is ready to go at a moment's notice.**