Specialized Associate Degree—Information Technology

Objective: The Specialized Associate Degree – Information Technology program is intended to give the student knowledge of a wide array of network technologies. From the program, students learn to build and troubleshoot a computer and learn the terminologies, setup, and configuration of several different network technologies. This provides students with a solid foundation from which they can then specialize in a specific field. After completion of 1320 hours of core classes which prepare students for eight certifications, students may choose concentrations in Microsoft, Linux, or Security for the final 360 hours. A 120-hour internship is included for those students who meet certain requirements. Graduates are prepared for entry-level positions as network administrators, network consultants, network engineers, network technicians, or systems engineers.

Certification Preparations (Core Classes):

CompTIA A+ Technician

CompTIA Network+

Microsoft Certification at the product level (MCP-Microsoft Certified Professional) in four areas:

Windows 7 Professional, Installing and Configuring Windows Server 2012, Administering Windows Server 2012, Configuring Advanced Windows Server 2012 Services

MCSA (Microsoft Certified Solutions Associate) Windows Server 2012: With completion of the three MCP certifications (Installing and Configuring Windows Server 2012, Administering Windows Server 2012, Configuring Advanced Windows Server 2012 Services) , the student will have achieved the highly regarded MCSA: Windows Server 2012 certification.

Certifications are not required to be employed in the career field or to graduate from the program, but they are highly recommended. Exams may be taken at the on-campus Prometric/VUE Testing Center. Exam fees vary, ranging from $60 to $225.

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Empire | College
Business – Law – Technology – Medical

Specialized Associate Degree—Information Technology

Program Outline: Core Classes

Class No.	Class Title	Hours	Qtr. Units
CMN190A	Web Authoring I	24	1.0
CMN190B	Web Authoring II	24	1.0
CMN210A	Photoshop	24	1.0
CSN100	Introduction to Computer Hardware	72	5.0
CSN111A	Powershell	24	1.0
CSN111B	Advanced Powershell	24	1.0
CSN120	Computer Configuration and Troubleshooting	72	5.0
CSN140	Advanced Computer Set-up and Communications	72	5.0
CSN150	Ticketing and Troubleshooting	24	1.0
CSN160	Network Plus	72	5.0
CSN175A	Wiring Hardware	24	2.0
CSN183	Green Information Technology Strategies	24	1.0
CSN191A	Certification Preparation I	24	1.0
CSN191B	Certification Preparation II	24	1.0
CSN205	Windows Server	72	5.0
CSN212	Windows Server Network Infrastructure	72	5.0
CSN218	Windows Server Active Directory	72	5.0
CSN225A	Electronic Messaging with Virus Protection	24	1.0
CSN242	Windows Operating System Configuration	72	5.0
CSN250A	Introduction to Routers I	24	2.0
CSN250B	Introduction to Routers II	24	2.0
CSN260	Basic Linux	72	5.0
CSN270A	Technical Drawing with Visio	24	1.0
CSN400*	Information Technology Internship	120	4.0
GBN101	Career Transitions	24	2.0

Class No.	Class Title	Hours	Qtr. Units
General Education			
ENN303A	Management Communications I	24	2.0
ENN303B	Management Communications II	24	2.0
GBN050	Information Literacy	24	2.0
GBN200A	Human Relations I	24	2.0
GBN200B	Human Relations II	24	2.0
GBN200C	Human Relations III	24	2.0
MAN101	Introduction to Algebra	24	2.0
PHN101A	Ethics in Technology and Society	24	2.0
	Total Core Classes:	1320	84.0

* See eligibility requirements under "Class Descriptions."

Linux Concentration

Objective: During the 360-hour Linux concentration, students will be able to implement various Linux platforms and fully deploy their capabilities. This program is designed to provide the student with the fundamental knowledge of the Linux operating system, installation, configuration, system management and troubleshooting.

There is also a study of the basic concepts of Linux File systems, Redundant Array of Independent Disks (RAID) design, backup procedures, SAMBA (Windows interconnectivity), IP routing, Domain Name Service (DNS), Postfix and Dovecot email servers, Apache Web Server, network file system, security models and standards, authentication, and KVM virtualization. Students will also learn the basics of Cisco routers including setup and configuration of many LAN (Local Area Network) and WAN (Wide Area Network) technologies, as well as the basics of web design.

The student is prepared for ten certifications:

CompTIA A+ Technician, Network+ and Linux+

Microsoft Certification at the product level (MCP-Microsoft Certified Professional) in four areas:

Windows 7 Professional, Installing and Configuring Windows Server 2012, Administering Windows Server 2012, Configuring Advanced Windows Server 2012 Services

MCSA (Microsoft Certified Solutions Associate) Windows Server 2012: With completion of three MCP certifications (Installing and Configuring Windows Server 2012, Administering Windows Server 2012, Configuring Advanced Windows Server 2012 Services) , the student will have achieved the highly regarded MCSA: Windows Server 2012 certification.

Linux Professional Institute Certification (LPIC Level I)

Red Hat Certified Systems Administrator (RHCSA)

Certifications are not required to be employed in the career field or to graduate from the program, but they are highly recommended. All exams except Red Hat may be taken at the on-campus Prometric/VUE Testing Center and are included in the program fees. Red Hat certification exams are offered at Red Hat Testing Centers; contact them for pricing.

Expected Educational Outcomes: Upon completing the Specialized Associate Degree – Information Technology – Linux program, students will have demonstrated:

1. The ability to provide customer and user support for computer systems and networking products including Microsoft Windows, Linux cross platform connectivity, and numerous software products.
2. The ability to create a network infrastructure using Linux Workstation and Server software.
3. An understanding of Unix/Linux operating systems including setup, configuration, and file user management.
4. The critical thinking skills required to analyze network connectivity problems and make necessary judgments to troubleshoot hardware and software.
5. The ability to use the internet as a resource to facilitate the use of unknown systems and new types of servers.
5. The ability to interact with users/customers in a professional, businesslike manner.
6. Proficiency with Open Office Suites.

Specialized (Occupational) Associate Degree awarded upon successful completion of all graduation requirements.

Linux Concentration

Program Outline: Requirements for Graduation

Class No.	Class Title	Hours	Qtr. Units
	All Core Classes	1320	84.0
CSN236	Exchange Server	72	5.0
CSN365	Linux System Administration	72	5.0
CSN375	Linux Networking	72	5.0
CSN385	Linux Security, Ethics and Privacy	72	5.0
CSN395	Linux in the Enterprise	72	5.0
	Program Total:	1680	109.0
	Total Weeks/Quarters:	84/7	

Keyboarding Speed Graduation Requirement:

25 NWPM

Microsoft Concentration

Objective: The 360-hour Microsoft concentration is designed to give the student experience in designing, deploying, and administering network infrastructure using Microsoft Windows. At the end of the program the student should be prepared to achieve the Microsoft Certified Information Technology Professional (MCITP: Enterprise Administrator) certification. In addition, students are introduced to the Linux/Unix operating system. Students will also learn the basics of Cisco routers including setup and configuration of many LAN (Local Area Network) and WAN (Wide Area Network) technologies, as well as the basics of web design.

Empire College is a Microsoft Developers Network Academic Alliance (MSDN AA) member and uses a teaching program prescribed by Microsoft to prepare graduates for certification as Microsoft IT Professionals. The student is prepared for 11 certifications:

> CompTIA A+ Technician, Network+ and Security+
>
> Microsoft Certification at the product level (MCP-Microsoft Certified Professional) in six areas:
>> Windows 7 Professional, Installing and Configuring Windows Server 2012, Administering Windows Server 2012, Configuring Advanced Windows Server 2012 Services, Designing and Implementing a Server Infrastructure, Implementing an Advanced Server Infrastructure
>
> MCSA (Microsoft Certified Solutions Associate) Windows Server 2012: With completion of three MCP certifications (Installing and Configuring Windows Server 2012, Administering Windows Server 2012, Configuring Advanced Windows Server 2012 Services) , the student will have achieved the highly regarded MCSA: Windows Server 2012 certification.
>
> MCSE (Microsoft Certified Solutions Expert) Server Infrastructure: With completion of five MCP certifications certifications (Installing and Configuring Windows Server 2012, Administering Windows Server 2012, Configuring Advanced Windows Server 2012 Services, Designing and Implementing a Server Infrastructure, Implementing an Advanced Server Infrastructure), the student will have achieved the highly regarded MCSE: Server Infrastucture certification.

Certifications are not required to be employed in the career field or to graduate from the program, but they are highly recommended. Exams may be taken at the on-campus Prometric/ VUE Testing Center. Exam fees vary, ranging from $60 to $225.

Expected Educational Outcomes: Upon completing the Specialized Associate Degree – Information Technology – Microsoft program, students will have demonstrated:
1. The ability to provide customer and user support for computer systems and networking products including Microsoft Windows client and server operating systems, cross platform connectivity, and numerous software products.
2. The ability to create a complete network infrastructure using Microsoft client and server operating systems.
3. An understanding of Microsoft Windows operating systems including setup, configuration, file and user management, as well as router configuration.
4. The critical thinking skills required to analyze network connectivity problems and make necessary judgments to troubleshoot hardware and software.
5. The ability to interact with users/customers in a professional, businesslike manner.
6. Proficiency with web authoring.

Specialized (Occupational) Associate Degree awarded upon successful completion of all graduation requirements.

Microsoft Concentration

Program Outline: Requirements for Graduation

Class No.	Class Title	Hours	Qtr. Units
	All Core Classes	1320	84.0
CSN219	Windows Server Applications Infrastructure	72	5.0
CSN231	Enterprise Administrator	72	5.0
CSN232	Windows SharePoint Server	72	5.0
CSN236	Exchange Server	72	5.0
CSN325	Security Plus	72	5.0
	Program Total:	1680	109.0
	Total Weeks/Quarters:	84/7	

Keyboarding Speed Graduation Requirement:
25 NWPM

Security   Concentration

Objective: The 360-hour Security concentration is designed to give the student experience recognizing network vulnerabilities and maximizing network security. In addition, students are introduced to the Unix/Linux operating systems including setup, configuration, and user management. Students will also learn the basics of Cisco routers including setup and configuration of many LAN (Local Area Network) and WAN (Wide Area Network) technologies, as well as the basics of web design.

The student is prepared for eight certifications:
CompTIA A+ Technician, Network+ and Security+
Microsoft Certification at the product level (MCP-Microsoft Certified Professional) in four areas:
Windows 7 Professional, Installing and Configuring Windows Server 2012, Administering Windows Server 2012, Configuring Advanced Windows Server 2012 Services
MCSA (Microsoft Certified Solutions Associate) Windows Server 2012: With completion of the three MCP certifications (Installing and Configuring Windows Server 2012, Administering Windows Server 2012, Configuring Advanced Windows Server 2012 Services) , the student will have achieved the highly regarded MCSA: Windows Server 2012 certification.

Certifications are not required to be employed in the career field or to graduate from the program, but they are highly recommended. Exams may be taken at the on-campus Prometric/ VUE Testing Center. Exam fees vary, ranging from $60 to $225.

Expected Educational Outcomes: Upon completing the Specialized Associate Degree – Information Technology – Security program, students will have demonstrated:
1. The ability to provide customer and user support for computer systems and networking products including Microsoft Windows, Linux cross platform connectivity, and numerous software products.
2. An understanding of Microsoft Windows operating systems including setup, configuration, and file and user management, as well as router configuration.
3. An ability to design and configure a PKI (Public Key Infrastructure).
4. An understanding of network data packets, the ability to create and design network firewalls and intrusion detection systems.
5. An understanding of strong authentication including the use of biometric, key fobs, and smart cards.
6. An understanding of various types of network vulnerabilities and the types of attacks used to penetrate a network.
7. The critical thinking skills required to analyze network connectivity problems and make necessary judgments to troubleshoot hardware and software.
8. The ability to interact with users/customers in a professional, businesslike manner.
9. Proficiency with web authoring.

Specialized (Occupational) Associate Degree awarded upon successful completion of all graduation requirements.

Security Concentration

Program Outline: Requirements for Graduation

Class No.	Class Title	Hours	Qtr. Units
	All Core Classes	1320	84.0
CSN313	Tactical Perimeter Defense	72	5.0
CSN323	Strategic Infrastructure Security	72	5.0
CSN325	Security Plus	72	5.0
CSN332	Advanced Security Implementation	72	5.0
CSN342	Enterprise Security Solutions	72	5.0
	Program Total:	1680	109.0
	Total Weeks/Quarters:	84/7	

Keyboarding Speed Graduation Requirement:

25 NWPM