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 core classes which prepare students for eight certifications, students may choose from three concentrations in Microsoft, Linux, or Security. An 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 10 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 VUE Testing Center. Exam fees vary, ranging from $60 to $225.

Department of Labor Standard Occupational Classification (SOC) Code(s): 15-1142.00 - Network and Computer Systems Administrators; 15-1151.00 - Computer User Support Specialists; 11-1152.00 - Computer Network Support Specialists
CIP Code: 11.1001 – Network and System Administration/Administrator

Empire College
3035 Cleveland Avenue
Santa Rosa, CA 95403
707-546-4000
www.empcol.edu

Empire College
Business – Law – Technology – Medical

Specialized Associate Degree—Information Technology

Program Outline: Core Classes

Class No.	Class Title	Hours	Qtr. Units
CSN100	Introduction to Computer Hardware	72	5.0
CSN111A	Command Line Interface	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
CSN191A	Certification Preparation I	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	Email Client Communications	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
CSN270A	Network Mapping and Documentation	24	1.0
CSN400*	Information Technology Internship	120	4.0
GBN101	Career Transitions	24	2.0

General Education

Class No.	Class Title	Hours	Qtr. Units
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
	Core Total:	1080	71.0

Keyboarding Speed Graduation Requirement:
25 NWPM

Program Outline: Concentrations

Class No.	Class Title	Hours	Qtr. Units
Cybersecurity Specialist Concentration (25 units required)			
CSN313	Cybersecurity Fundamentals I	72	5.0
CSN323	Cybersecurity Fundamentals II	72	5.0
CSN325	Security Plus	72	5.0
CSN332	Ethical Hacking I	72	5.0
CSN342	Ethical Hacking II	72	5.0
	Program Total:	1440	96.0
	Total Weeks/Quarters:	72/6	
Linux Specialist Concentration (25 units required)			
CSN260	Introduction to Linux	72	5.0
CSN365	Linux Plus	72	5.0
CSN375	Linux on the Desktop	72	5.0
CSN385	Linux on the Server	72	5.0
CSN395	Linux in the Enterprise	72	5.0
	Program Total:	1440	96.0
	Total Weeks/Quarters:	72/6	
Microsoft Specialist Concentration (25 units required)			
CSN219	Advanced Windows Server	72	5.0
CSN231	Enterprise Administrator	72	5.0
CSN236	Exchange Server	72	5.0
CSN260	Introduction to Linux	72	5.0
CSN325	Security Plus	72	5.0
	Program Total:	1440	96.0
	Total Weeks/Quarters:	72/6	

* See eligibility requirements under "Class Descriptions" in the Course Catalog.

Cybersecurity Specialist Concentration

Objective: The Cybersecurity electives are 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.

The student is prepared for ten certifications:

CompTIA A+ Technician, Network+ and Security+

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

Windows 10 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.

Security Certifications in two areas: CompTIA Cybersecurity Analyst (CySA+) and CompTIA PenTest+

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 VUE Testing Center. Exam fees vary, ranging from $60 to $225.

Expected Educational Outcomes: Upon completing the Specialized Associate Degree – Information Technology (Security Concentration) 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.

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

Linux Specialist Concentration

Objective: During the Linux electives, students will be able to implement various Linux platforms and fully deploy their capabilities. These courses are 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.

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 10 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 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 Concentration) 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.
6. The ability to interact with users/customers in a professional, businesslike manner.
7. Proficiency with Open Office Suites.

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

Microsoft Specialist Concentration

Microsoft Imagine ✕

Objective: The Microsoft electives are 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 Solutions Expert (MCSE: Server Infrastructure) 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.

Empire College is a Microsoft Imagine partner 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 10 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 four MCP certifications certifications (Installing and Configuring Windows Server 2012, Administering Windows Server 2012, Configuring Advanced Windows Server 2012 Services, and Designing and Implementing a Server Infrastructure or Implementing an Advanced Server Infrastructure), the student will have achieved the highly regarded MCSE: Cloud Platform and Infrastructure 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 VUE Testing Center. Exam fees vary, ranging from $60 to $225.

Expected Educational Outcomes: Upon completing the Specialized Associate Degree – Information Technology (Microsoft Concentration) 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.

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