Information Support Services and Networking

The Information Support Services and Networking (ISSN) student who successfully completes four years of the program will, at a minimum, be able to integrate computer maintenance and repair, web design and development, and computer applications with business communications skills. The ISSN student will also have practical knowledge of analog and digital electronics as well as a solid background in the field of data communications, which includes network design, routing and switching, and network maintenance and operation.

Graduates of our ISSN program will graduate with the following skills and competencies:

- The ability to demonstrate health and safety practices specific to ISSN
- The ability to identify problems through diagnosis and to go beyond the diagnosis with corrective action planning
- The ability to identify trends in the information technology workplace and society
- The ability to configure and install desktop computer hardware
- The ability to configure laptop hardware and components
- The ability to summarize printer types, installation and maintenance
- The ability to install and configure Operating Systems (OS) using the most appropriate methods
- The ability to compare the layers of the Operating Systems Interconnection (OSI) and Transmission Control Protocol/Internet Protocol (TCP/IP) model
- The ability to describe network media and topologies
- The ability to install and configure network operating systems
- The ability to identify components of network management
- The ability to explain the troubleshooting theory
- The ability to identify the function of various local and network applications
- The ability to utilize multimedia and graphic tools
- The ability to explain the purpose and functions of computer programming
- The ability to set up peripheral devices
- The ability to explain the fundamentals of web page development
- The ability to implement a switch network and a routed network
- The ability to install and manage servers

Our graduates are not limited to entry-level positions in the ISSN industry. Higher level positions are vast and vary in both the general industry as well as specialty areas within the industry Graduates of our ISSN program, who take post-graduate training and/or industry specialized training, might choose to specialize in one of the following examples of technical career areas:

- Information technology (IT) director (would require the ability to oversee the strategy and execution of IT operations for an organization)
- Data scientist (would require the ability to analyze and organize data to determine trends that can influence business decisions)
- IT security specialist (would require the ability to build and maintain digital protection measures on intellectual property and data that that belong to an organization)

- Software engineer (would require the ability to apply an understanding of mathematics and computer science to create and improve new software)
- Computer scientist (would require the ability to apply technological skills and resources to solve IT problems and to create new programming languages and bolster the efficiency of hardware and software programs)
- Database administrator (would require the ability to employ specialized software to organize and keep track of data while also diagnosing issues related to the data infrastructure to ensure an organization's data is safe, accessible, and easy to navigate)
- User experience designer (UX) (would be responsible for all facets of product development, including its purchasing, branding, usability and functionality)
- Systems Analyst (would require the ability to review design components and the ways that infrastructure needs to change to streamline business and IT operations)
- Information technology technician (would require the ability to analyze and diagnose computer issues)
- IT support specialist (would require the ability to provide general support to a company's employees)
- Quality assurance tester (would require the ability to check software products to see if they meet industry standards and are free of any issues)
- Web administrator (would require the ability to set up an organization's web host and grant access for specific use of servers and helps users understand the basic functions of the system they are using)
- Web developer (would require the ability to design the appearance, navigation and content organization of a website)
- Computer programmer (would require the ability to write new computer software using code languages)
- Cloud system engineer (would require the ability to estimate the amount of database storage that a company would require, as well as the ability to evaluate if data is being processed correctly within an organization)
- Computer service technician (would require the ability to repair computer hardware and software
- Database analyst (would require the ability to design, evaluate, review, and implement databases)
- Data analyst (would require the ability to develop insight and gain information through the collection, analysis and interpretation of data)
- Data center technician (would require the ability to maintain computer hardware networks and data servers)
- Hardware engineer (would require the ability to oversee the manufacture and installation of computer systems, servers, circuit boards, and chips, as well as the testing of equipment)
- Web developer (would require the ability to design the appearance, navigation and content organization of a website)
- Network administrator (would require the ability to manage and troubleshoot networks)

- Network engineer (would require the ability to perform the day-to-day maintenance and development of a company's computer network and to make the network available and efficient for all employees within an organization)
- Applications engineer (would require the ability to act as a liaison between engineers and customers)
- Data quality engineer (would require the ability to develop and manifest data practices for an organization)
- IT director (would require the ability to oversee the strategy and execution of IT operations for an organization)
- IT manager (would require the ability to manage electronic networks and IT teams of organizations)
- IT security specialist (would require the ability to build and maintain digital protective measures and to create strategies to troubleshoot problems as they arise)
- IT consultant (would require the ability to specialize in fields such as security, software for a specific market, internet solutions, or web design)
- Management information systems director (would require the ability to spearhead the software, equipment installation and other projects to improve the quality of a company's information systems)
- Multimedia developer (would require the ability to design software and create multimedia applications that generate and manipulate animations, graphic images, text, sound, and video)

Graduates of our ISSN program have the opportunity to secure the following industry-recognized certifications:

- OSHA 10-Hour Card and Certificate
- CISCO IT Essentials PC Technician Certificate
- COMPTIA+ Network Certification
- CISCO CCNA: Introduction to Networks Certificate
- CISCO CCNA: Switching Routing and Wireless Essentials Certificate

Following are the qualities and skills that are necessary for success in the field of ISSN:

- Diagnostic and problem solving skills are necessary
- Dexterity is essential in performing the many tasks that require steady hands and good eye-hand coordination
- Excellent communications skills are necessary to successfully interact with all members of an organization
- Organizational and time-management skills are necessary
- Analytical skills are necessary to discover solutions needed to perform a job effectively
- Creative skills are necessary to provide suggestions or solutions to a problem
- Project management skills are necessary in order to multitask, meet deadlines, reach goals, and resolve issues
- Leadership skills are necessary for advancement

Frameworks

The ISSN Frameworks identify the competencies that students will have the opportunity to learn in a four-year time span.

Articulation Agreements

State articulation agreements are a uniform and consistent way for students in our ISSN program to enroll in any Massachusetts community college and be awarded credits for work completed at Chicopee Comprehensive High School. Our ISSN program has additional local articulation agreements with STCC, HCC, and Keene State College. These local agreements recognize credits beyond the standard 3 credit state recognition.

These agreements allow for a seamless continuation of education for our students.