

INFORMATION TECHNOLOGY (A.S.) +

CCV's Information Technology program prepares students for the exciting and ever-changing field of information technology (IT). Organizations need skilled technicians to install, manage, secure, and adapt complex information systems. As companies continue to expand their information systems, IT workers are needed to communicate effectively with colleagues, collaborate with cross-functional teams on IT projects, resolve technical issues, and provide technical assistance to empower colleagues to leverage technology effectively to achieve organizational goals. Information technology professionals find employment in a wide variety of industries including businesses, schools, hospitals, nonprofit organizations, and government. Our curriculum provides students with foundational skills in networking, security, programming, and operating systems. Students will build depth of knowledge through at least twelve program course credits and at least six different recommended focus areas: cloud computing, cybersecurity and networking, data analytics & AI, IT support, programming, and web development. Students in the Information Technology degree program may choose to pursue related CCV certificates and industry recognized credentials while obtaining their degree including certificates in Cloud Computing, Cybersecurity and Networking, Data Analytics & AI, IT Support, and Web Development.

All associate degrees include completion of general education requirements which, together with program requirements, constitute a minimum of 60 credits. In some cases program requirements also fulfill general education requirements. You may not use a single course to meet two general education requirements.

General Education

Complete at least one course in each of the following:

☐ First Semester Seminar

INT 1050 - Dimensions of Self & Society

☐ Introductory Written Expression – VSCS

ENG 1061 - English Composition

☐ Digital and Computing Literacy – VSCS

☐ Mathematics - VSCS _____

☐ Natural Science - VSCS _____

☐ Social Science - VSCS _____

☐ Arts & Aesthetics - VSCS _____

☐ Humanistic Perspectives - VSCS _____

☐ Communication

Meets graduation standard in oral communication

☐ Research & Writing Intensive

ENG 2135 - Technical Writing & Research

☐ HUM 2010 - Seminar in Educational Inquiry

Meets graduation standard in writing and information literacy

**You may use a course to meet both a program requirement and a general education requirement; however, you may not use a single course to meet two general education requirements.*

Program Requirements

Courses are listed in the order in which we recommend you take them.

☐ CIS 1100 - Introduction to Computer Science*

☐ CIS 1350 - Desktop Operating Systems

☐ CIS 2120 - Network and Security Foundations

☐ CIS 2210 - Python Programming

or

☐ CIS 1145 - Programming I

☐ ENG 2135 - Technical Writing & Research*

☐ CIS 2230 - System Administration

Choose at least 12 CIS credits in any combination or by focus area from the list below:

Cloud Computing:

☐ CIS 1450 - Foundations of Cloud Computing

☐ CIS 2350 - Cloud Infrastructure and Services

☐ CIS 2460 - Cloud Computing Capstone

Cybersecurity and Networking:

☐ CIS 2235 - Advanced System Administration

☐ CIS 2245 - Concepts of Computer Security

☐ CIS 2255 - Principles and Management of Cybersecurity

☐ CIS 2265 - Cyber Defense and Network Security

☐ CED 0211 - CompTIA Network+ Preparation Workshop (0 credit, optional)

☐ CED 0221 - CompTIA Security+ Preparation Workshop (0 credit, optional)

Data Analytics & Artificial Intelligence (AI):

☐ CIS 1280 - Introduction to Data Analytics

☐ CIS 1270 - Introduction to Artificial Intelligence (AI)

☐ CIS 2330 - Fundamentals of Database Systems

☐ CIS 2380 - Introduction to Machine Learning

☐ CIS 2420 - Data Visualization

IT Support:

☐ CIS 1035 - Foundations of Information Security

☐ CIS 2110 - Concepts of PC Hardware

☐ CIS 2245 - Concepts of Computer Security

☐ CIS 2360 - Computer User Support

☐ WFE 0541 - CompTIA A+ Prep and Exam Workshop (0 credit, optional)

Programming:

☐ CIS 1245 - Programming II

or

☐ CIS 2212 - Python Programming II

☐ CIS 2295 - Game Programming

Website Development:

☐ CIS 1151 - Website Development

☐ CIS 1152 - Advanced Website Development

☐ CIS 2080 - Content Management Systems

☐ CIS 2140 - JavaScript for Web Development

Electives: 0-1 credits _____

Minimum Total Credits in Degree: 60

+ This program can be completed fully online.

Program Outcomes

Graduates of the Information Technology program will be able to:

- demonstrate knowledge and skills that meet industry standards;
- use a computer programming language to solve problems and implement appropriate solutions;
- upgrade, maintain, and install software applications with emphasis on problem anticipation and user support;
- prepare a plan for implementing a network solution in a small business setting;
- demonstrate academic skills required of all CCV graduates, including competency in writing, information literacy, oral communication, quantitative reasoning; and
- explore pathways and demonstrate preparedness for educational and career development in the student's field of study.

The Information Technology program is great for you if:

- you enjoy working with programming and computer systems;
- you are looking for a career in IT support, software development, network administration, cloud computing, cybersecurity, data analytics, or web development;
- you plan to matriculate to an IT-related bachelor's degree;
- you enjoy problem-solving, teamwork, and have good communication skills; and
- you are prepared to work in a dynamic and changing work environment.

Key information and advice for students in the Information Technology program:

- The Information Technology degree provides practical experience with networks, security, and information systems.
- This program provides skills necessary to be a computer support specialist in a small business or any environment that uses technology in its daily operations.
- This program can be completed entirely online.
- Students who complete the cloud computing focus area will have an opportunity to earn the Amazon Web Services (AWS) Certified Cloud Practitioner and Certified Solutions Architect Certifications.
- Students may elect to prepare for various CompTIA certification exams such as Tech +, A+, Net +, Security +, and Server +.
- This program fits easily into most IT-related bachelor's degrees and is aligned with transfer pathways.

The Information Technology program prepares you for careers such as:

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|-----------------------------------|--------------------------|-------------------|----------------|
| • IT Support Specialist | • Cyber Security Analyst | • Cloud Architect | • Data Analyst |
| • Assistant Network Administrator | • Web Developer | • IT Analyst | |

For up-to-date Vermont labor market information, including salary information and growth projections, view the Economic and Labor Market Information on the Vermont Department of Labor Website <http://www.vtlmi.info/>.