

Information Technology



The mission of the Information Technology program is to prepare Alaskans with the skills to implement and support Information Technology solutions.

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Length of Course: 1,128 clock hours (36 credit hours),

188 training days

Enrollment: Mid August

Training Hours: 8:30 a.m. to 3:30 p.m., Monday through Friday

Certificate Level: Information Technology

Occupational Levels:

PC/Network Support Technician

PC Support Technician

Network Support Technician

Industry Certifications:

The field of information technology (IT) covers all aspects of managing and processing information. IT professionals design, develop, support, and manage computer software, hardware, and networks. In addition to the Information Technology program certificates, students can also prepare for and earn the following industry certifications:

Microsoft Certified Technology Specialist (MCTS) Active Directory

Microsoft Certified Technology Specialist (MCTS) Network Infrastructure

Microsoft Certified Technology Specialist (MCTS) Configuring Operating Systems

Cisco Certified Network Associate (CCNA)

Cisco Certified Entry Network Technician (CCENT)

CompTIA's A+ and Net+ certification

Microsoft
IT Academy Program



Networking
Academy



Prerequisites:

Students must test at a 12th grade reading level prior to acceptance in the program. Students should also have basic keyboarding skills and be competent using a personal computer. Contact the Admissions Office for details on testing.

TABE tests scores for this program must be:

Reading 609

Combined Math 552

INFORMATION TECHNOLOGY DEPARTMENT

A PC Support Technician Certificate is required for enrollment in the Network Support Technician Classes. AVTEC will also accept A+ Certification in addition to either Network+ or CCENT Certification for enrollment in the Network Support Technician Classes. Students should also have good study habits and communication/interpersonal skills

Information Technology

Welcome to the Information Technology program. Technology now permeates all businesses and there is a real need for IT professionals for implementation and support.

According to the U.S. Bureau of Labor Statistics, 854,000 professional IT jobs will be added between 2006 and 2016, an increase of about 24 percent. When replacement jobs are added in, total IT job openings in the 10-year period is estimated at 1.6 million. The bureau estimates that one in 19 new jobs created in the 10-year period will be professional IT positions. This translates into real opportunities for anyone interested in entering the IT industry, someone looking to change their current employment situation, or a person starting a second career. If taking advantage of these opportunities has seemed out of your reach, you should check out this intensive 36 week program.



What makes the AVTEC Information Technology program different from most other IT programs is the amount of hands-on experience a student is provided. A significant amount of the program time is spent working on production equipment in production networks either on campus or interning with cooperating IT organizations. This leads to a graduate who is competent, confident and employable.

The PC Support Technician coursework prepares students for employment servicing and supporting networked computers and to take the CompTIA A+ and Network+ Certification Exams. These certifications are the computer industry standards for ensuring the competency of computer service technicians.

The Network Support Technician coursework prepares students for employment supporting, administering and designing networks. These courses also prepare a student for Microsoft MCTS certifications, the Cisco CCNA certification, and the Cisco CCENT certification.

If you are smart, like learning about and working with technology, and are willing to invest 10 months in intensive training, check out the AVTEC IT program. It could be your fast track to an IT career.

University of Alaska Transcript

Information Technology graduates may earn up to 34 credits on their University of Alaska transcript while in attendance at AVTEC. These credits may be directly applied to an advanced IT degree at the UAA or UAF campuses.

Program Requirements

Students enrolling with existing certifications (A+, Network+, CCENT) and demonstrating proficiency in PC Support Technician skills may receive credit for previous training to shorten the program length.

Occupational levels will be assigned upon successful completion of the training program based on the student's proficiency of the program's competencies. Occupational levels are **PC/Network Support Technician** for students successfully completing both semesters of classes, **PC Support Technician** for students who successfully complete the first semester only, and **Network Support Technician** for those students who successfully complete the second semester only.

PC Support Technician Requirements

The requirements for the PC Support Technician include the following courses: IT 101 Fundamental PC Technologies, IT 103 Advanced PC Support, IT 105 Windows System Configuration, IT 107 Network Fundamentals, IT 110 PC Service & Support Lab, and CON Communication. This is a total of 522 contact hours or 17.5 credit hours.

IT 101 Fundamental PC Technologies

Prerequisite: None

Contact Hours: 120, Credit Hours: 4

Fundamental Personal Computer Technologies is the first in a series of courses that make up the AVTEC Information Technology program curriculum. The purpose of this course is to give the student an introduction to personal computer theory, configuration and repair. This course provides the foundation for the advanced courses that follow by helping the student develop the fundamental knowledge, skills and customer relation skills required of a PC/LAN Support Technician. Knowledge of basic computer hardware and operating systems, covering skills such as installing, building, upgrading, repairing, configuring, troubleshooting, optimizing, diagnosing and preventive maintenance, with additional elements of soft skills and security are covered. This course presents much of the typical information covered on the CompTIA A+ Essentials Certification Test module.

IT 103 Advanced PC Support

Prerequisite: IT 101

Contact Hours: 120, Credit Hours: 4

Advanced PC Support is designed to prepare computer support technicians with the ability to perform tasks such as installation, building, repairing, configuration, troubleshooting, optimizing, diagnosing and preventive maintenance on an advanced level in the context of the field service or enterprise environment employing the customer relation skills required of a PC/LAN Support Technician. This course presents the typical information covered on the CompTIA A+ 602 Technician Certification Examination.

IT 105 Windows System Configuration

Prerequisite: IT 103

Contact Hours: 120, Credit Hours: 4

Windows Operating Systems provides students with the knowledge and skills to install and configure Windows Operating Systems on networked desktops. It will focus on four main areas: installing, securing, networking, and browsing. By the end of the course, the student will have installed and configured Windows operating system desktops that are secure, on the network, and ready for browsing. This is the first course in the Windows curriculum and will serve as the entry point for other Windows Technology Specialist courses offered in the second semester.

IT 107 Network Fundamentals

Prerequisite: IT 103

Contact Hours: 120, Credit Hours: 4

This course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. It uses the OSI and TCP layered models to examine the nature and roles of protocols and services at the application, network, data link, and physical layers. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. Labs use a “model Internet” to allow students to analyze real data. Packet Tracer (PT) activities help students analyze protocol and network operation and build small networks in a simulated environment. At the end of the course, students build simple LAN topologies by applying basic principles of cabling, performing basic configurations of network devices such as routers and switches, and implementing IP addressing schemes.

IT 110 PC Service & Support Lab

Prerequisite: IT 103

Contact Hours: 30, Credit Hours: 1

PC Service & Support Lab is the capstone course in the PC Support segment of the PC/LAN Support program curriculum. The purpose of this course is to give the student thirty hours of technical support time to apply the skills learned in previous IT courses in actual service and support situations. Students perform work specified in work orders to configure, maintain, and repair personal computers. Customer relation skills will be demonstrated in this course as the student responds to requests for hardware and operating support from computer users.

CON Communication

Prerequisite: None

Contact Hours: 12, Credit Hours: .5

Workplace communications training helps students improve skills and build self-confidence. Student’s class hours are spent learning methods of communicating effectively in various situations such as in a team, with supervisors or with difficult coworkers.

Network Support Technician Requirements

The requirements for the Network Support Technician include the following courses: IT 202 Routing Protocols and Concepts, IT 203 LAN Switching and Wireless, IT 204 Accessing the WAN, IT 205 Windows Directory Services, IT 206 Windows Network Services, IT 210 Industry Externship, and CON Job Search and Interview Skills. This is a total of 606 contact hours or 18.5 credit hours.

IT 202 Routing Protocols and Concepts

Prerequisite: IT 107

Contact Hours: 90, Credit Hours: 3

CCNA 2: Routers and Routing Basics is the third of five CCNA courses leading to the Cisco Certified Network Associate (CCNA) designation. The focus of this course is upon the architecture, components, operation of routers, and the principles of routing and routing protocols.

Students analyze, configure, verify, and troubleshoot the primary routing protocols RIPv1, RIPv2, EIGRP, and OSPF. Students will be able to recognize and correct common routing issues and problems.

IT 203 LAN Switching and Wireless

Pre-requisite: IT 202

Contact Hours: 90, Credit Hours: 3

CCNA3: Switching Basics and Intermediate Routing is the fourth of five courses leading to the Cisco Certified Network Associate (CCNA) designation. This course provides a comprehensive, theoretical, and practical approach to learning the technologies and protocols needed to design and implement a converged switched network. Students learn about the hierarchical network design model and how to select devices for each layer. They learn how to configure a switch for basic functionality and how to implement Virtual LANs, VTP, and Inter-VLAN routing in a converged network. They learn the different implementations of Spanning Tree Protocol in a converged network, and they develop the knowledge and skills necessary to implement a WWLAN in a small to medium network.

IT 204 Accessing the WAN

Prerequisite: IT 203

Contact Hours: 90, Credit Hours: 3

CCNA 4: WAN Technologies is the last of five courses leading to the Cisco Certified Network Associate (CCNA) designation. Students learn the WAN technologies and network services required by converged applications in Enterprise Networks. Students learn how to implement and configure common data link protocols and how to apply WAN security concepts, principles of traffic, access control and addressing services. Finally, students learn how to detect, troubleshoot, and correct common enterprise network implementation issues. In addition, the student will prepare for taking the CCNA Exam.

IT 205 Windows Directory Services

Prerequisite: IT 204

Contact Hours: 90, Credit Hours: 3

This course provides the student with the knowledge and skills to configure Active Directory Domain Services in a distributed environment, implement Group Policies, perform backup and restore, and monitor and troubleshoot Active Directory related issues.

IT 206 Windows Network Services

Prerequisite: IT 205

Contact Hours: 120, Credit Hours: 4

This course introduces students to network and applications infrastructure concepts and configurations provided by Window Server 2008. Students will learn to implement and configure secure network access and implement fault tolerant storage technologies. Students will gain an understanding of the network technologies most commonly used with Windows Server 2008 and IP-enabled networks. Students will also learn how to secure servers and maintain update compliance.

IT 210 Industry Externship

Prerequisite: IT 205

Contact Hours: 114, Credit Hours: 2

During the Industry Externship the student will work in an IT position with a cooperating employer. Learning objectives are established which provide an opportunity for the student to apply the skills learned in previous courses. This course may also be completed by the student completing an approved capstone project.

CON Job Search and Interview Skills

Prerequisite: None

Contact Hours: 12, Credit Hours: .5

Job Search Class is designed to help students refine career goals, find job openings, complete job applications and develop resumes. Techniques in using the telephone to get employment information, and how to set up interviews are also covered. Interview Training provides students with videotaped practice interviews, and concludes with a simulated interview conducted by employers in the community who volunteer their time to support AVTEC in developing a well-trained work force.