

GREAT PLAINS TECHNOLOGY CENTER
COURSE OF STUDY

<u>Career Cluster:</u>	Information Technology (IT)
<u>Career Pathway:</u>	Information Support and Services (IT002)
<u>Program:</u>	Information Technology Services
<u>Program Hours:</u>	Secondary Students: 1050 Hours Adult Students: 1050 Hours
<u>Instructor:</u>	Name: Jeffrey Standridge Office Number: (580) 250-5528 E-Mail Address: jstandridge@greatplains.edu
<u>Academic Credit:</u>	Secondary Students: 3 high school credits per year – *OK Promise credit Adult Students: Transcript
<u>Prerequisites:</u>	Basic keyboarding skills and Microsoft Windows 10 are recommended, basic understanding of Access, Excel, PowerPoint, and Word

Program Description:

This program prepares students to provide technical assistance to computer users in various work environments. Students learn to repair service and troubleshoot personal computers and computer-related equipment and to install and configure operating systems and application software. They also learn the basics of networking, including installation, configuration and troubleshooting of hardware peripherals and protocols, as well as network administration duties and providing support for network users. Students gain the technical skills required for CompTIA A+, CompTIA Network+, Microsoft Certified Associate, Microsoft Certified Systems Administrator, and Security Certified Network Professional industry certifications.

Program Goals:

Students enrolled in this program will develop the skills and knowledge to successfully perform computer related hardware assembly, maintenance, troubleshooting, and repair. This program will give the student the opportunity to develop the skills and attitudes needed to successfully enter the field of computer related hardware maintenance and networking according to their personal choice, ability, and resourcefulness.

Upon achieving the goals of this program, students will:

- Become competent in the fundamental skills of the Information Technology Services field.
- Become qualified for further related education and/or entry into the job market.
- Develop a positive and realistic self-image.
- Develop the ability to work with limited or no supervision.
- Accept and abide by the rules and regulations established by the school and/or place of employment.
- Participate as responsible citizens.

Related Career Opportunities:

- Software/Hardware Specialist
- Computer Administrative Assistants
- Computer Information Specialist

- Desktop Support Specialist
- Network Administrator
- IT Professionals
- Applications Developers
- Computer User Support Specialist
- Technology Mobility Specialist

Program Objectives:

After successful completion of this program, the student will be able to:

- Explain basic computer and networking concepts.
- Identify common computer information terminology.
- Identify career opportunities in both desktop support and information technology professions.
- Identify the potential and limitations of computer related hardware and software functions.
- Assemble, maintain, troubleshoot, and repair a computer related hardware.
- Describe the impact of computer related hardware as it affects the workplace.
- Discuss computer security, privacy, and ethics and identify future implications of these issues.
- Use the Internet effectively for research purposes.
- Develop work ethics and leadership skills through Career Tech Student Organizations (CTSOs) and class projects.

Program Course Sequence:

- HS Student and Part-time Adult (Year One): Course Sequence I
- HS Student and Part-time Adult (Year Two): Course Sequence II
- Full-time Adults (Year One): Course Sequence I and II

**DESCRIPTION OF COURSES
SEQUENCE I**

<u>Course #</u>	<u>Course Name</u>	<u>HST</u>	<u>HSL</u>	<u>ADT</u>	<u>ADL</u>
BT00255	Networking Fundamentals	40	80	40	80
This course is designed to assess candidates' knowledge of fundamental networking concepts. MTA is a new certification under the Microsoft Certification Program that validates the foundational knowledge needed to begin building a career in Microsoft technologies. It can also serve as a stepping stone to the Microsoft Certified Technology Specialist exams. Successful candidates for this exam will earn an MTA certification as well as access to benefits of the Microsoft Certification Program. The primary target audience for the MTA certification is students attending high schools and two-year colleges.					
BT00126	Computer Repair and Troubleshooting I (8136*)	40	80	40	80
Students will prepare for positions related to the maintenance of computers and computer-related equipment through hands-on and project-based learning, curriculum assignments, and Internet research. The focus of this course is in the hardware area.					
BT00051	Computer Repair and Troubleshooting II (8137*)	40	80	40	80
Students will prepare for positions related to the maintenance of computers and computer-related equipment through hands-on and project-based learning, curriculum assignments, and Internet research. The focus of this course is software and operating systems.					

BT00151 Installing and Maintaining Desktop Applications 40 80 40 80

Students will perform network administration duties and provide support for network users in various work environments including professional offices and small businesses, work groups or departments, and corporate information services (IS).

BT00110 Program Capstone I 0 45 0 45

Internships, project-based instruction and teamwork will be utilized to provide additional exposure in the field of computer support. Students will make final preparations for industry certifications as they master outlined competencies. Students will select from various project options to finalize portfolios that highlight skills and certifications. Students may also undertake special projects, cross-train or participate in workplace learning opportunities to enhance skills in accordance with industry demands.

Sequence I Subtotal Hours:	Theory	Lab	Total
High School Student:	160	365	525
Adult Student:	160	365	525

**DESCRIPTION OF COURSES
SEQUENCE II**

<u>Course #</u>	<u>Course Name</u>	<u>HST</u>	<u>HSL</u>	<u>ADT</u>	<u>ADL</u>
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BT00275 Network Routing and Switching I (8125*) 50 100 50 100

Network Routing and Switching I introduces the architecture, structure, functions, components, and models of the Internet and computer networks. The principles of IP addressing and fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple LANs, perform basic configurations for routers and switches, introduces the architecture, structure, functions, components, and models of the Internet and computer networks. The principles of IP addressing and fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes.

BT00017 Network/Client Operating System (8121*) 60 120 60 120

Students will perform desktop client administration and maintenance and provide support for users in various work environments, including professional offices, small businesses, work groups, departments, and/or corporate information services (IS).

BT00043 Network Management (8123*) 40 80 40 80

Students will perform a variety of network support skills necessary to keep a company's network running efficiently – with less downtime. Students will solve advanced company-wide support problems and high-level network problems. Additionally, students will perform planning, installation, configuration, troubleshooting and upgrade services for networks.

BT003GP Program Capstone II 0 75 0 75

Internships, project-based instruction and teamwork will be utilized to provide additional exposure in the field of computer support. Students will make final preparations for industry certifications as they master outlined competencies. Students will select from various project options to finalize portfolios that highlight skills and certifications. Students may also undertake special projects, cross-train or participate in workplace learning opportunities to enhance skills in accordance with industry demands.

Sequence II Subtotal Hours:	Theory	Lab	Total
High School Student:	150	375	525
Adult Student:	150	375	525

Program Total:	Theory	Lab	Total
High School Student:	310	740	1050
Adult Student:	310	740	1050

Evaluation Policy:

Employability Grades (100 points per week; 30% of final grade)

100 points per week (includes attitude, attendance, punctuality, cooperation, participation, clean-up, materials/supplies brought to class, no food, gum, or candy, no excessive talking, school and classroom rules followed, and efficient time management). Points will be deducted if these responsibilities are not met at the instructor's discretion. Twenty (20) points will be deducted for each absence. Students will be allowed to make up unearned points for **excused** absences only (see Student Handbook).

Make-up of employability grades will be allowed. It is the student's responsibility to obtain and turn in the make-up work within three school days of the absence. For time made up, students may regain 10 of the 20 points deducted. Full credit will be given for assignments/tests made up. NOTE: School activity absences with an approved blue card are considered absences unless the work is made up.

Performance Grades (40% of final grade)

- Lab projects
- Performance or skill tests
- Homework
- Written Assignments

Test Grades (30% of final grade)

- Test grades will be based on a 100-point scale.
- Test grades include written and/or skills tests.
- A test will be given for each unit of instruction.
- Tests are to be taken as a unit is completed.
- Tests must be completed within allotted time.

Final Grade (9 Weeks Period)

9-weeks grade will be calculated by averaging grades in each category and summing each category according to their assigned weight. Progress reports will be sent to home schools at six and twelve-week intervals each semester as required or requested. Grades are accessible on-line at <http://sonisweb.greatplains.edu/studsect.cfm>

Grading Scale:

The grading scale as adopted by the Board of Education is as follows:

A = 90 – 100

- B = 80 – 89
- C = 70 – 79
- D = 60 – 69
- F = Below 60
- W = Withdrawn
- I = Incomplete
- N = No Grade (Refer to Student Handbook)

Make-Up Work Policy:

All Make-Up Work Is The Responsibility Of The Student. Students should always arrange for any make-up work with the instructor. Please keep track of your progress and grades. If you have any questions concerning your grades, please visit with your instructor.

Attendance Policy:

For specific information related to attendance and tardiness refer to the Student Handbook. Students should keep a written record of their absences and tardiness.

Course Requirements and Expectations:

The general course requirements and expectations include:

- The Information Technology Services program is part of the Information Technology Cluster at the Great Plains Technology Center. Students are encouraged to continue their training in the additional programs offered in Information Technology.
- Teaching methods consist of lecture and lab application.
- The Career Tech Student Organization (CTSO) offers outstanding opportunities for development of leadership and social skills. CTSO membership is part of the curriculum. Therefore, all students are members of a CTSO and are expected to participate in the CTSO activities.
- All students must adhere to the policies and procedures outlined in the Great Plains Technology Center Student Handbook.
- Students will work in groups of two or three assigned by the instructor and that lab partner(s) will remain constant for the assigned period of time.
- Students who need to make-up time will do the make-up work Monday through Thursday after scheduled instructional time by appointment.

Student Behavior Includes:

- Students and equipment safety will be the number one priority in the classroom.
- All students will wear appropriate safety apparel while working in computer lab and in the classroom.
- Food or drinks will not be allowed in the classroom or lab area.
- Wrist straps and safety glasses will be worn when handling RAM or other IC's.
- Students needing assistance will request help from the instructor, not another student. When appropriate, the instructor may allow one student to help another.
- Any student who is approached by Great Plains Technology Center faculty, staff, or other student with a computer problem or repair request will refer the person to the instructor.
- Students will keep and enter daily notes in their journal.

Industry Alignments:

- CompTIA
- Cisco
- **Information Technology Specialist**
- SCNA – Security Certified Network Architect

- SCNP – Security Certified Network Professional

Certification Outcomes:

Tier 1 – Certifications Recognized, Administered and/or Endorsed by Industry

- Certiport: Networking (1150)
- Certiport: Networking Security (1718)
- Certiport: Device Configuration and Management (1738)
- CompTIA: A+ (1504)
- CompTIA: Linux+ (1301)
- CompTIA: Network+ (0952)
- CompTIA: Security+ (1707)
- MCSA: Windows 10 Configuring (0225)
- MCSA: Windows 10 Enterprise Desktop Support Technician (0217)

CIP Code and SOC Code Crosswalk:

- CIP Code – 11.0103
- SOC Code – 15-1121.00

OCAS program codes:

- 9542 – Computer/Network Support (first year)
- 9543 – Computer/Network Support (second year)

OCAS course codes:

- 8136 – Computer Repair and Troubleshooting I
- 8137 – Computer Repair and Troubleshooting II
- 8121 – Network/Client Operating Systems
- 8121 – Network Management
- 8125 – Network Routing and Switching I

Instructional Materials:

Students are not required to purchase textbooks or supplemental materials.

eLearning Curricula:

Cisco Networking Academy. “IT Essentials: Fundamentals of IT.” *cisco.com*. Cisco Systems Inc., 2019. Web. <<https://www.netacad.com/>>

Cisco Networking Academy. “Linux Fundamentals.” *cisco.com*. Cisco Systems Inc., 2019. Web. <<https://www.netacad.com/>>

“TestOut PC Pro Certification.” PC Pro, www.testout.com/certification/pro-exams/pc-pro.

“TestOut Network Pro Certification.” Network Pro, <https://www.testout.com/courses/network-pro>

“TestOut Security Pro Certification.” Security Pro, <https://wwwnew.testout.com/courses/security-pro>

Textbooks:

Cisco Network Academy IT Essentials Lab Manual – 1st Year

Cisco Networking Academy. IT Essentials: PC Hardware and Software Lab Manual (5th Edition). 978-1587133107. Indianapolis: Cisco Press, 2013.