GREENVILLE TECHNICAL COLLEGE

Business and Technology Division
Computer Technology
Course Syllabus
LAN Network Technologies - IST 257
2018

Credit/Contact Hours
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Co-requisite
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Credit/Contact Hours:
3.0

Prerequisite:
CPT 257

Co-requisite:
None

Course Description:
A study of network operating system technologies including network operating system architecture, the installation, configuration, monitoring, and troubleshooting of network resources, and network administration functions such as user/group maintenance, network security, print services, remote access, fault tolerance, backup, and recovery. Note: Course correlates with Microsoft Windows 2016 Server.

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Purpose of Course:
Provide students with the knowledge and skills necessary to understand, install, configure, and administer the Windows 2016 Server network operating system.

Required Texts:
1. Hands-On Microsoft Windows Server 2016; Michael Palmer;
Course Technology/Thomson Learning; ISBN 13:9781305078628; ISBN 10: 1305078624
NOTE: Students in traditional classes must access Blackboard for course-related information. Students in hybrid and online classes will access their online content through Blackboard.

Additional Materials, Supplies, Equipment, and Technology:
SPECIAL NOTE TO ONLINE STUDENTS: Online students will be REQUIRED to come to the Barton Campus to complete hands-on labs. The number of required on-campus meetings will vary from class to class. Students should plan on at least 3 to 4 meetings. Online students will be required to complete the labs to satisfactorily complete the course. Also, the final examination for online students will be administered on the Barton Campus. The final examination will be scheduled at a time determined by the administration

Instructional Agreement:

This syllabus is an agreement between the student and instructor concerning course objectives, course content, grading, and other policies and procedures particular to the course as well as any posted program, departmental, and divisional policies. It is also the student's responsibility to become familiar with the Student Handbook/College Catalog found in the Student Resources area of Blackboard.

Greenville Technical College Core Competencies:
Communication Core Competency: Students will demonstrate effective written and oral communication skills to convey information, ideas, or opinions.

- Written Communication: Students will demonstrate effective written communication skills to convey information, ideas, or opinions.
- Oral Communication: Students will demonstrate effective oral communication skills to convey information, ideas, or opinions.

Critical Thinking Core Competency: Students will demonstrate effective reasoning, problem solving, or quantitative skills to develop an opinion or conclusion.

- Critical Reasoning: Students will employ inquiry, analysis, and synthesis of information to formulate and/or evaluate an opinion or conclusion.
- Problem Reasoning: Students will design and formulate a strategy to answer a question or achieve a desired goal.
- Quantitative Reasoning: Students will be able to analyze numerical information or observable facts resulting in informed conclusions.

Information Literacy Core Competency: Students will be able to locate, evaluate, and use information effectively from diverse sources.

Professionalism Core Competency: Students will demonstrate conduct and etiquette appropriate to the community and chosen career.

- Professionalism: Students will display professional conduct and work habits.
- Teamwork: Students will collaborate with others to accomplish a shared goal.

Program Student Learning Outcomes:
Upon successful completion of the Computer Technology Degree students will be able to:

1. Install computer and network hardware.

2. Install computer operating systems and application software.

3. Design, create and test computer programming solutions.

4. Demonstrate the ability to take initiative, assume responsibility, and work under pressure with minimum supervision by successfully completing "hands-on" computer assignments.

5. Analyze, troubleshoot, and correct computer related technical problems.

Course Outcomes:
Students who successfully complete this course will have demonstrated the skills required to accomplish the following objectives with a minimum competence level of 70 percent.

1. Identify Windows Server 2016 Editions, assess hardware requirements, configure the Server 2016 environment and troubleshoot performance issues.

2. Implement and administer Active Directory, user accounts, groups, printers, shared folders and file permissions.

3. Configure data storage, DNS, WINS,DHCP, RAS and Group Policy

4. Install the Windows Server 2016 operating system, create a domain controller and configure related objects in a domain environment including user accounts, groups, printers, network drives, shared folders and file permissions.

The objectives of the IST 257 course are intended to meet the Computer Technology program level student learning outcomes.

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Course Content:

PLAN OF INSTRUCTION:

TEXT
CHAPTER   MAJOR TOPICS

Chapter 1 – Introduction to Windows Server 2016
1. Windows Server 2016 Editions
2. Windows Networking Models
3. Implementing TCP/IP

Chapter 2 – Installing Windows Server 2016
1. Performing a DVD-Based Installation
2. Server Core
3. Installing and Managing Service Packs

Chapter 3 – Configuring the Windows Server 2016 Environment
1. Using Server Manager
2. Installing and Removing Server Rolls
3. Configuring the Operating System
4. Windows Powershell

Test #1 – Chapters 1, 2, and 3

Chapter 4 – Introduction to Active Directory and Account Management
1. Active Directory Basics
2. Containers in Active Directory
3. User Account Management
4. Security Group Management
5. Implementing User Profiles

Chapter 5 – Configuring, Managing and Troubleshooting Resource Access
1. Managing File and Folder Security
2. Configuring Shared Folders and Shared Folder Permissions
3. Implementing DFS

Chapter 6 – Configuring Windows Server 2016 Printing
1. Installing and Local and Shared Printers
2. Configure Printer Properties
3. Managing Print Jobs

Test #2 – Chapters 4, 5, and 6

Chapter 7 – Configuring and Managing Data Storage
1.   Disk Management
2.   Introduction to Fault Tolerance
3.   Disk Backup

Chapter 8 – Managing Windows Server 2016 Network Services
1.   Installing DNS Services
2.   Implementing DHCP
3.   Implementing Microsoft Internet Information Services

Chapter 9 – Configuring Remote Access Services
1.   Configuring a VPN Server
2.   Connecting Through Remote Desktop Services

Chapter 10 – Securing Windows Server 2016
1.   Introduction to Group Policy
2.   Securing Windows Server 2016 Using Security Policies
3.   Configuring NAT

Test #3 – Chapters 7, 8, 9, and 10
Chapter 11 – Server and Network Monitoring
1.   Monitoring Server Services
2.   Using the Task Manager
3.   Using the Performance Monitor
4.   Using Data Collector Sets

Chapter 12 – Managing System Reliability
1.   General Problem Solving
2.   Resolving Boot Problems
3.   Using and Configuring the Event Viewer
4.   Troubleshooting Connectivity

Prepare for Final Exam

Final Exam – Chapters 1-12 and Cumulative Hands-On Portion
The instructor reserves the right to modify the Plan of Instruction by changing the sequence of text material or testing content.

Course Policies:
Computer Technology students must obtain a minimum grade of "C" in all CPT and IST courses.

Please refer to Departmental Polices in Blackboard to review additional course and department policies.

Revised August 2018

Grading Scale:
Grades will be calculated as follows:

Major Tests	60 percent
Attendance, Homework, and Labs	15 percent
Final Exam	
	25 percent

NOTE: ALL TESTS AND EXAMS ARE RETAINED BY THE INSTRUCTOR.

Students with Disabilities:

Students with disabilities, including those who were served in Special Education (resource or tutorial), should contact Student Disability Services (SDS) to discuss their need for services and accommodations. The main SDS office is located on the Barton Campus in the Student Center Building 105, office 113.

Staff can be reached by phone at 864 250-8202 or via email to DisabilityServices@gvltec.edu. Appointments are available at all satellite campus locations. Please check the GTC website for more information concerning Student Disability Services (http://gvltec.edu/disability-services/).

Efforts have been made to ensure all materials presented in an electronic format are accessible for students with disabilities, and the college is committed to this obligation. However, if you experience any difficulty accessing these materials, please notify your instructor immediately so a solution can be provided. You may also contact Student Disability Services directly at 864-250- 8202 or by email at DisabilityServices@gvltec.edu.

Students who need a PDF reader for accessibility of course documents presented in PDF format may download Adobe Reader (https://get.adobe.com/reader/).

Nondiscrimination Statement:

Greenville Technical College provides equal opportunity and affirmative action in education and employment for all qualified persons regardless of race, color, religion, sex, national origin, age, disability, sexual orientation, or veteran status.

The college complies with the provisions of Titles VI and VII of the Civil Rights Act of 1964, as amended; Title IX of the Education Amendments of 1972 and the Higher

Education Amendments of 1986; Sections 503 and 504 of the Rehabilitation Act of 1973, as amended; the South Carolina Human Affairs Law of 1972; and with the Americans with Disabilities Act (ADA) of 1990 as well as the ADA Amendments of 2008 (ADAA).

For additional information on nondiscrimination policies, students should contact Student Disability Services, which coordinates Title II of the ADA/ADAA, Section 504 at (864) 250-8408 v/TTY; Title IX Coordinator at (864) 250-8144.

Technology Statement:
Greenville Technical College is not responsible for personal technology or internet access. Problems with computers, devices, or internet access are not acceptable for late work. When completing gradable coursework online, be sure to access a secure, reliable internet connection (preferably hardwired). All technical questions should be directed to technical support (https://www.gvltec.edu/about_greenvilletech/tech_support)

Due dates for all assignments and quizzes/tests are listed on the Course Schedule/Plan of Instruction. All graded work is time-stamped when submitted, so your instructor can check the time of submission. In addition, you will receive a confirmation email message when Blackboard Assignments are submitted. You must provide this confirmation information in case of any dispute regarding the submission.

Computer labs are available at multiple camps locations and offer various hours as well as staff available for assistance.

(https://www.gvltec.edu/student_resources/computer_labs)

Microsoft Office programs or PDF format are recommended for submitting assignments in Blackboard. Students can access portal.office.com, log in with their

<username>@my.gvltec.edu email address and Blackboard/GTC4me password, then follow the prompts to install Microsoft Office free of charge.

Title IX Policy:
Greenville Technical College does not discriminate against any student on the basis of pregnancy or related conditions and will comply fully with Title IX regulations.

Absences due to medical conditions relating to pregnancy and maternity leave will be excused for as long as deemed medically necessary by a student's doctor, and the student will be given the opportunity to make up missed work. Documentation from the student's doctor is required. Students needing assistance may seek accommodations from the Title IX Coordinator or Student Disability Services. Please contact the Title IX

Coordinator (TitleIX@gvltec.edu) or Student Disability Services (DisabilityServices@gvltec.edu) for additional information.

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Attendance:

Attendance and participation are necessary for academic success. The student's record of attendance will begin on the first day of the course, even if registration occurs after the course has begun. Students are expected to attend and complete all scheduled instructional activities, both in class and online.

A student may withdraw from any course up to the published deadline. If the student drops the course during the add/drop period, no course tuition will be charged. If a withdrawal occurs after the drop/add period, tuition charges will result. Ceasing to attend class does not constitute an official withdrawal from the course and may result in financial aid consequences. Refer to the Refund Policy for details.

Administrative removal from a course:

- If a student preregisters for a course, but subsequently does not meet the prerequisite for the course, the course will be deleted from the student's schedule. Students will be notified via their college email account that the course has been removed.
- If a student registers for a course but fails to attend (including failing to meet the criteria for being counted as present in an online course), the student will be administratively withdrawn from the course and will earn a grade of WA. The student will be responsible for payment for the course in accordance with the college refund policy. Students will be notified via their college email account that they have been administratively withdrawn.
- If a student attends a course at least once during the drop/add period, but fails to attend (including failing to meet the criteria to be counted as present in an online course) after the drop/add period, the student will be administratively withdrawn from the course and will earn a grade of W. The student will be responsible for payment for the course in accordance with the college refund policy. Students will be notified via their college email account that they have been administratively withdrawn.
- If a student is recorded absent for more than 20 percent of the course contact hours, whether face-to-face or online, the student will be administratively withdrawn from the course and will earn a grade of W. The student will be responsible for payment for the course in accordance with the college refund policy. Students will be notified via their college email account that the absences limit has been exceeded and that they have been administratively withdrawn.

Starfish:

We care about your success! Greenville Technical College is proud to offer Starfish, a software tool designed to promote student success through coordination and communication between students, instructors, and support staff.

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When you set up your profile in Starfish, you can connect with services, faculty, and staff at Greenville Technical College. The link to Starfish is located in Blackboard. Throughout the term, you may receive emails regarding your attendance, course grades, or academic performance.

To benefit from this software, it is important that you check your Greenville Technical College Gmail regularly and read the Starfish alerts. If your academic performance begins to drop, you may also be contacted directly by a Success Coach or the Student Success Center.

Start, Stay, Succeed!