

GREENVILLE TECHNICAL COLLEGE

Business and Technology Division Computer Technology Course Syllabus Fundamentals of Voice over IP IST 295

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Credit/Contact Hours:

3.0

Prerequisite:

IST 203 Cisco III

Prerequisite Knowledge:

- Understanding of the fundamental terms and concepts of computer networking including IP routing - switching, LANs and WANs.
- Familiar with the command Line Interface (CLI) on Cisco routers and switches
- Understand the operation of VLANs and DHCP

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

Co-requisite:

None

Course Description:

This course is a study of Voice over IP (VoIP) telephony technology. Topics covered include safety, Basic telecommunication terminology, protocols, fundamentals of the Public Switched Telephone network (PSTN), Voip standards and protocols, configuration of a VoIP system and associated features.

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Purpose of Course:

This course provides the knowledge and concepts required to understand and implement Voice over IP (VoIP) telephony and what components are necessary in these environments.

Required Texts:

1. CCNA Voice 640-461 Official Cert Guide; Cisco Press; ISBN: 978-1587204173; CCNA Voice Lab Manual 978-1587132995; Cisco Press, ISBN: 978-1587132995; CCNA Voice Portable Command Guide; Cisco Press; ISBN: 978-1587204425
2. 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:

Special Note to Online Students: Please refer the Syllabus Attachment 1 to review the Tentative Course Schedule. The schedule outlines the chapters that will be reviewed, when tests will be given and when assignment and labs will be due.

Course Outcomes:

Upon completion of the course, the student will be able to successfully **complete 70 %** of the following tasks:

1. The student will be able to explain the functions and features of the Public Switched Telecommunications Network (PSTN).
2. The student will be able to identify the various requirements, benefits and components of a VoIP telephony system
3. The student will be able to explain the importance of IP Quality of service (QoS) for VoIP.
4. The student will be able to perform routine end point and end user device configuration.

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5. The student will be able to identify and troubleshoot common VoIP system issues.
6. The course will aid the student in the preparation of the Cisco CCNA voice 640-641 exam.

The outcomes of the IST 295 course are intended to meet the Computer Technology program level student learning outcomes.

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.

Revised June 2013

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.

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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.

Instructional Agreement:

The Cisco curriculum is based on the Cisco unified communications system, Call Manager Express (CME) and Cisco Unified Communications manager (CUCM). The course is instructor led with hands on lab exercises. The text is used as an enhancement to the instructor led curriculum. Additional course materials and tests can be accessed with your Blackboard user name and password.

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 Resource area of Blackboard.

The final exam will consist of a written assessment and a skill-based assessment.

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Grading Policy

A numeric grade will be given for each of the following items:

(4) Tests	45 percent
Class Assignments - Labs	10 percent
Class Assignment – Journals	10 Percent
Final Examination	20 percent
Skills-based Assessment	15 percent

Departmental Grading Scale

Final letter grades will be issued as follows:

A	=	90 - 100
B	=	80 - 89
C	=	70 - 79
D	=	60 - 69
F	=	0 - 59

INCOMPLETES: An INCOMPLETE ("I") will only be approved if ALL of the following conditions exist:

- The student must have no more than 3 weeks (15-week term) or 1.5 weeks (8-week/10-week term) remaining to complete the course.
- The student must have a validated, documented reason why he/she cannot complete the course by the prescribed end date (illness, work situation, death, etc.).
- The student must be up to date with all work up to the point of the request for an Incomplete (no untaken tests or un-submitted labs, homework, etc.), and the student must have a passing grade average (C or higher) for all work submitted.

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Course Policies:

Disabilities Information

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 a free reader at <https://acrobat.adobe.com/us/en/products/pdf-reader.htm>

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.

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!