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Computer Technology Department
Business and Technology Division
GREENVILLE TECHNICAL COLLEGE
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COURSE SYLLABUS

Course Title: Internetworking Concepts
Course Number: IST 201

READ THIS SYLLABUS CAREFULLY
You should read this syllabus carefully and ask your instructor about *any* aspects that you do not understand. The syllabus is an agreement between you and your instructor concerning course objectives, course content, grading, and other policies and procedures particular to this course. The following information is specific to the course. Three additional documents are provided as attachments and *are considered a part of this syllabus*:

Attachment I:

Each instructor will provide a supplement to this syllabus. The supplement will include: a week-by-week plan of instruction based on the section in which you are enrolled; your instructor's name, office hours and/or office location; and your instructor's contact information and recommended best methods to contact your instructor.

Attachment 2:

The Department responsible for developing and teaching has policies and procedures in place to assure quality instruction for all students. These are attached as "Departmental Policies and Procedures."

Attachment 3:

Please note that it is your responsibility to read the current Student Handbook included in Greenville Technical College's Catalog. (See website.) The Student Handbook addresses specific academic and student conduct policies and procedures. Excerpts from the Student Handbook representing the policies and procedures most often referred to in working with students are provided for your convenience as "Attachment 3."

Approved by: _____
                            Phillip Cluley, Department Head for Computer Technology
                            Phillip.Cluley@gvltec.edu (864) 250-8655, Barton Campus, Building 103/309

Approved by: _____   Date: _____
                         Joel D. Welch, Ph.D., PE
                         Dean, Technology Division

This syllabus will remain in effect until revised or reviewed no later than August 2016.

COURSE SYLLABUS

Course Title: Internetworking Concepts
Course Number: IST 201

Lecture hours per week: 3.0   **Semester credit hours:** 3.0

Prerequisite: MAT 101 or higher   **Co-requisite**: CPT 257

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

Catalog Course Description: This course is a study of current and emerging computer networking technology. Topics covered include safety, networking, network terminology and protocols, network standards, LANs, WANs, OSI Model, cabling, cabling tools, Cisco routers, router programming, star topology, IP addressing, and network standards.

Purpose of the Course: This course introduces students to fundamental networking concepts and technologies using a hands-on approach. In addition, the course will assist students in developing the skills necessary to plan and implement small networks across a range of applications. By the end of this course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes.

Internetworking Concepts is the first of four courses that may be used to prepare for the Cisco Certified Entry Level Technician (CCENT) or Cisco Certified Network Associate (CCNA) exam.

Required text(s) or other materials:

1. *Introduction to Networks: CCNA Companion Guide*, Cisco Press, 2014, ISBN# 978-1-58713-316-9

    Introduction to Networks: Lab Manual, Cisco Press, 2014, ISBN# 978-1-58713-312-1

    Greenville Tech Bookstore Bundle ISBN# 978-1-58713-342-8

2. **Blackboard**: Students taking traditional, online, and hybrid classes must access Blackboard for course-related information.

3. **Cisco Net Academy**: Students taking traditional, online, and hybrid classes must access **netacad.com** for practice tests, online skills assessments, and online labs.

COLLEGE-WIDE GENERAL EDUCATION OUTCOMES

1. Communication – Students will demonstrate the ability to use active reading and listening skills and to produce effective written and oral communication for varying audiences.
2. Information Technology and Technological Literacy – Students will demonstrate competency in using computer technology within a field of study.
3. Critical Thinking/Reasoning – Students will demonstrate the ability to apply the scientific method, mathematical processes, and research skills to analyze and solve problems/issues by using reflection and reasoning to justify conclusions.
4. Professional and Personal Responsibility – Students will demonstrate the ability to exhibit conduct, attitudes, and etiquette appropriate to the student's community and chosen career. Students will demonstrate the ability to manage time, to use effective interpersonal skills, and to display responsible behavior.
5. Diversity – Students will demonstrate the ability to recognize diversity and to demonstrate respectful conduct and attitudes toward all. Students will demonstrate the ability to explain how global issues impact life, work, and opportunities.

Revised December 31, 2012

COMPUTER TECHNOLOGY PROGRAM LEVEL STUDENT LEARNING OUTCOMES

Upon successful completion of the Computer Technology degree,

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 August 2012

IST 201 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. Explain the physical and logical functions of each layer of the OSI and TCP/IP reference models
2. Explain the Ethernet network architecture and identify technologies used in an Ethernet network.
3. Build and troubleshoot a simple Ethernet network
4. Design, calculate, and apply subnet masks and addresses to fulfill given requirements in IPv4 and IPv6 networks
5. Use Cisco command-line interface (CLI) commands to perform basic router and switch configurations

The outcomes of the IST 201 course are intended to meet the Computer Technology program level student learning outcomes.

Revised August 2014

IST 201 – MAIN TOPICS

Please refer to the Syllabus Attachment 1 in Blackboard to review the **Tentative Course Schedule**. Your instructor will provide a detailed, week-by-week plan of instruction along with method of delivery, testing, and assignment submission.

COURSE OUTLINE (UNITS):

The Cisco curriculum is available at the web site cisco.netacad.net. The text is used as an enhancement to the online curriculum. The online curriculum and review quizzes can be accessed with your user name and password. To receive full benefit from the online curriculum, be sure to visit links recommended and review audio portions.

Chapter 0: Course Introduction	Chapter 6: Network Layer
Chapter 1: Exploring the Network	Chapter 7: Transport Layer
Chapter 2: Configuring a Network Operating System	Chapter 8: IP Addressing
Chapter 3: Network Protocols and Communications	Chapter 9: Subnetting IP Networks
Chapter 4: Network Access	Chapter 10: Application Layer
Chapter 5: Ethernet	Chapter 11: It's a Network

Upon successful course completion participants will receive a Cisco Course Certificate

IST 201 - EVALUATION AND GRADING INFORMATION

Grades will be **calculated** as follows:

Tests	20 percent
Assignments/Journals/Quizzes	20 percent
Labs	30 percent
Proctored Skills based Assessments	20 percent
Proctored Final Written Examination (Cisco Online)	10 percent

Final letter grades for the course will be issued as follows:

A = 90 - 100

B = 80 - 89

C = 70 - 79

D = 60 - 69

F = 0 - 59