Network Systems Administration Department
Business/Public Service Division
GREENVILLE TECHNICAL COLLEGE

COURSE SYLLABUS

Course Number: IST 201

Course Title: Internetworking Concepts

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

Prerequisite: IST 220

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 provides the knowledge and concepts required to understand how local and wide area networks communicate and what components are necessary in these environments.

Required text(s) or other materials:

1. Networking Fundamentals: CCNA Exploration Companion Guide, bundled with Network Fundamentals: CCNA Exploration Labs and Student Guide; Cisco Press, 2007; ISBN: 0-131-357700

2. NOTE: <u>Students in traditional classes</u> must access Blackboard for course-related information. <u>Students in hybrid and online classes</u> will access their online content through Blackboard.

COLLEGE-WIDE STUDENT LEARNING 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.

Approved March 26, 2009

NETWORK SYSTEMS ADMINISTRATION PROGRAM LEVEL STUDENT LEARNING OUTCOMES

Upon successful completion of the Network Systems Administration program, the student will be able to:

1. Set up, maintain, and troubleshoot computer and network hardware.

2. Install, maintain, and troubleshoot operating system and application software.

3. Construct and configure local area networks.

4. Administer and troubleshoot network operating systems.

5. Analyze and implement security measures for information technology.

IST 201 COURSE OUTCOMES

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

1. Explain the functions of each layer of the OSI reference model.

2. Construct and test various network cables.

3. Explain network addressing utilizing the TCP/IPv4 protocol.

4. Explain the Ethernet network architecture and identify technologies used in an Ethernet network.

5. Demonstrate the ability to subnet an IPv4 network.

The outcomes of the IST 201 course are intended to meet the Network Systems Administration program level student learning outcomes numbered 1, 2, and 3.

IST 201 – Main Topics

Module 1: Living in A Network Centric World
Module 2: Communicating Over the Network, Lab 2-1
Module 3: Application Layer Functionality and Protocols , Lab 3-1
Module 4: OSI Transport Layer Lab 4-1,4-2
Module 5: OSI Network Layer Lab 5-1
Module 6: Addressing the Network Labs 6-1
Module 7: OSI Data Link Layer
Module 8: OSI Physical Layer
Module 9: Ethernet Labs: 9-1
Module 10: Planning and Cabling Networks   Labs: 10-1
Module 11: Configuring and Testing your Network Labs 11-2

IST 201 – Course Specific Requirements

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.

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

Grades will be calculated as follows:

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

Unit Tests (Cisco Online)	50 percent
Class Assignments	10 percent
Final Examination (Cisco Online)	20 percent
Skills-based Assessment	20 percent

Final letter grades will be issued as follows:

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

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 above 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: _____
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Approved by: _____
Lenna C. Young, Dean, Business/Public Service

27 June 11
Date

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This syllabus will remain in effect until revised or reviewed no later than <u>August 2012</u>.