COURSE SYLLABUS

Course Title: Linux Security Administration

Course Number: IST 193

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.
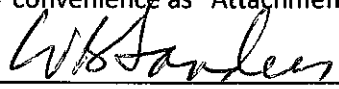
Attachment 2:

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."
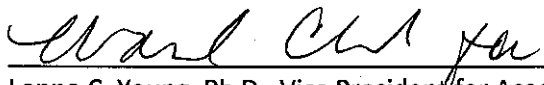
Attachment 3:

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: _____

Beau Sanders, Department Head, Computer Technology Department
beau.sanders@gvltec.edu, (864) 250-8314, Barton Campus, Building 103/311

Approved by: _____

Lenna C. Young, Ph.D., Vice President for Academic Affairs
for the Dean of Business/Public Service Division
Dean's Office: (864) 250-8196, Barton Campus, Engineering Technology Building 103/104

16 Dec 13
Date

This syllabus will remain in effect until revised or reviewed no later than August 2014.

COURSE SYLLABUS

Course Number: IST 193

Course Title: Linux Security Administration

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

Prerequisite: IST 192

Catalog Course Description: This course will provide students with the skills necessary to implement and administer basic Linux security policies, including authentication, securing network applications, system monitoring, encryption, and others.

Purpose of the Course: Students will learn how to configure and administer various Linux security features including Pluggable Authentication Modules (PAM), TCP Wrappers, and kernel level firewalling using iptables; as well as advanced administration of user authentication, password management, system monitoring, and data encryption.

Required text(s) or other materials:
1. RHCSA™/RHCE® Red Hat® Linux Certification Study Guide, Sixth Edition; Michael Jang; McGraw Hill/Osbourne; ISBN-13: 978-0-07-176565-7 (This is the same text as used in IST192)
2. Guide to Linux Shell Script Programming by Todd Meadors; published by Course Technology, a division of Thomas Learning, Inc.; ISBN-10: 0-619-159-0
3. 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.

Students for Whom the Course is Intended: For individuals who design, implement, maintain, and administer Red Hat Enterprise Linux servers.

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.

Revised December 31, 2012

COMPUTER TECHNOLOGY PROGRAM LEVEL 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 August 2012

IST 193 COURSE OUTCOMES

Upon successful completion of this course, students will be able to do the following with 70 percent accuracy:

1. Demonstrate user authentication and password management in Linux.

2. Demonstrate Linux system monitoring.

3. Demonstrate kernel level firewalling in Linux.

4. Secure a Linux server on an enterprise network.

5. Create an administrative bash shell script.

The outcomes of the IST 193 course are intended to meet the Computer Technology program level student learning outcomes.

Revised 1/2009

- Introduction to Linux Security and User Authentication
- System Monitoring
- Network and Service Access Controls
- Securing Data
- Linux Bash Shell Script Programming
  - Shell Script Concepts
  - Decision Structures
  - Looping Structures
  - Functions and Arrays
  - Advanced Shell Programming
  - Additional and Advanced Techniques

See Attachment 1 for Class Schedule and more course information.

IST 193 – COURSE SPECIFIC REQUIREMENTS

The Red Hat Academy curriculum is available at the website **academy.redhat.com.** The text is a printed version of the online curriculum. The online curriculum and tests can be accessed with your user name and password. To receive full benefit from the online curriculum, be sure to visit links recommended.

IST 193 – EVALUATION AND GRADING INFORMATION

Grades for this course will be calculated as follows:

Workbook Tests (Red Hat Online Tests)	**50 percent**
Labs	**15 percent**
Workbook Assignments	**10 percent**
Final Examination	**25 percent** (Written Final Exam 65% and Skill-Based Assessment 35%)

Notebooks should be maintained containing notes from the Red Hat curriculum, the text, lectures, and labs.

There are 11 online tests. The tests are intended for the Red Hat Certified Technician (RHCT) exam preparation. The final exam will consist of a written assessment and a skill-based assessment.

Final letter grades will be issued as follows:

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

During the semester, if you have any issues that need to be addressed at an administrative level, the Business/Public Service has two assistant deans in addition to the Dean who will be glad to speak with you about your concerns. They are available via email, phone, or in their offices as provided below:

Elizabeth Mann, Assistant Dean, Business/Public Service for Teaching and Learning
elizabeth.mann@gvltec.edu, (864) 250-8491, Barton Campus, Criminal Justice Building 121/124

Mary Locke, Assistant Dean, Business/Public Service for Student Services
mary.locke@gvltec.edu, (864) 250-8629, Barton Campus, Engineering Technology Building 103/304