Department: Industrial and Engineering Technology
Course Number: TSM 352 Credit Hours: 3

I. Title: System Security

II. Catalog Description: A lab-based course, studying security issues associated with network operating systems.

III. Purpose: Build a good foundation for the student to understand the issues involved with network operating system security and establish a foundation for further detailed security courses.

IV. Course Objectives: To provide the Telecommunications student with the information necessary to analyze and thwart current operating system invasion techniques.

V. Content Outline

1. Windows System Security
   a. Win2K3 Security Tools
   b. Windows Security Architecture
   c. Authentication
   d. Enumeration
   e. Passwords
   f. Privilege Escalation
   g. Interactive Control
   h. Auditing

2. Linux Security
   a. Linux Security Architecture
   b. Permissions and Attributes
   c. SELinux
   d. Users, Passwords, and SUDO
   e. System Logging, syslog and klog
   f. Log Management
   g. File and System Tools
   h. Traffic Tools

3. Vulnerability Assessment
   a. Nessus
   b. Metasploit Framework
   c. Microsoft Baseline Security Analyzer

VI. Instructional Activities: Lab, Lecture and Discussion

VII. Field and Clinical Experiences: None

VIII. Resources: http://campus.murraystate.edu/tsm/
http://campus.murraystate.edu/blackboard/

IX. Grading Procedures:

Quizes	50 %
Labs*	50 %
Total	100 %

*Lab grading rubric involves 70% correct answer & analysis, 30% effort.

X. Attendance: Attendance will be recorded each lab session. No provisions will be made for making up absences from labs. A student is allowed ONE ABSENCE for each MIDTERM. That is, one allowed absence before midterm, and one after. A missed lab will still result in a reduction of the grade for that lab report. Two or more absences within a single midterm will automatically fail the student. Note that this does not apply to the Recitation sessions--but no provisions will be made for making up quizzes. Attendance is not required but highly recommended for lecture. Poor attendance will be reflected on the final grade.

XI. Academic Honesty Policy: Cheating, plagiarism, submitting another person's material as one's own, or doing work for another person who will receive academic credit are all impermissible. This includes the use of unauthorized books, notebooks, or other sources in order to secure or give help during an examination, the unauthorized copying of examinations, assignments, reports, or term papers, laboratory reports, drawings or the presentation of unacknowledged material as if it were the student's own work. Disciplinary action may result in no credit for an assignment or exam and/or failure of the course.

XII. Texts:

Title: Windows Server 2003 Security
Author: Roberta Bragg
Publisher: Addison Wesley
ISBN: 0321305019

Title: Hardening Linux
Authors: James Turnbull
Publisher: Apress
ISBN: 1590594444

Optional Text:
Title: Counter Hack Reloaded
Author: Ed Skoudis
Publisher: Prentice Hall
ISBN: 0131481045

Recommended Supplementary Texts:

Linux in a Nutshell by Siever (O'Reilly - any edition is useful)
Linux Administration by Shah (Any edition is useful)
Hacking Exposed by McClure (2nd or 3rd edition is fine, whatever you can find that is inexpensive)

XIII. Prerequisites: TSM 232, TSM 340 and TSM 343

XIV. STATEMENT OF AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY: :

Murray State University endorses the intent of all federal and state laws created to prohibit discrimination. Murray State University does not discriminate on the basis of race, color, national origin, gender, sexual orientation, religion, age, veteran status, or disability in employment, admissions, or other provision of services and provides, upon request, reasonable accommodation including auxiliary aids and services necessary to afford individuals with disabilities equal access to participate in all programs and activities.